mini OFFICE

PROFESSIONAL

PRESENTATION GRAPHICS

USER GUIDE

DATABASE SOFTWARE

Atari ST

*O*mini*FFICE*

P R O F E S S I O N A L
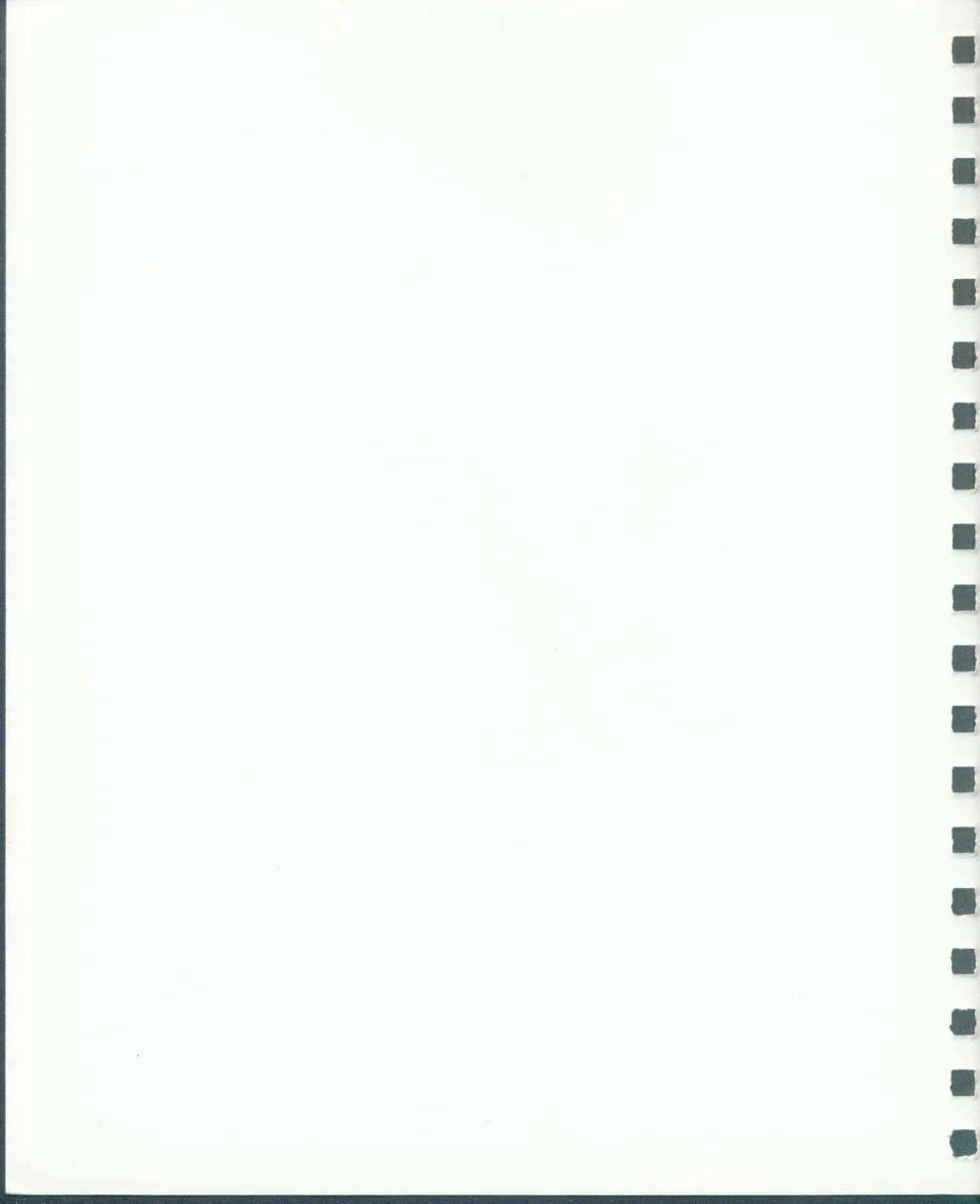
Atari 520ST,
1040ST,
Mega ST

GRAPHICS
USER GUIDE

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TO GET YOU STARTED...

You'll probably want to draw some graphs straight away so follow this Quick Start Guide which will take you through the main features of the program. In order to take you from data to graph as quickly as possible, some aspects of the program will be glossed over. However, all aspects of its operation are covered in detail in the Graphics Tutorial section.

Experienced computer users may well be able to use the program with only minimal reference to this manual. However, you are strongly advised to read through it to make sure you don't miss any of the program's facilities as it contains several unique features.

Unlike many computer applications, the world of graphs and charts is relatively jargon-free. Unavoidably, there are a few words which may need explaining but we'll tackle them when necessary in context.

Mini Office Professional Graphics is heavily icon-based and easy to understand. Most options are selected by pointing and clicking.

Before you begin make sure you have made working copies of your discs. (See the section on backing up your discs at the back of this manual.) You'll also need a blank disc on which to save the files you will be creating with Mini Office Professional Graphics. If you don't have a blank disc to hand, format one now. (The section which tells you how to back up your discs also tells you how to format them.)

Starting the program

● Insert your backup copy of the program disc into the disc drive.

● Switch on the monitor then the computer. If you are using a TV set or colour monitor the system will boot up in medium resolution. A window will open for drive A.

● Use the mouse to point at the program file GRAPH.PRG and double-click on it. In a few moments you will see the FILES screen.

You are now ready to begin using Mini Office Professional Graphics.

Creating a graph

The basic procedure for creating a graph is very simple:

● Enter or load the data.

● Select the data sets you want to plot.

● Select the type of graph you want to use.

● Plot it.

● Add text and further graphics if required.

Loading data

The first thing you need to do is load in some data. We've already prepared a demonstration file you can experiment with.

● Insert the backup disc containing the demonstration files into the disc drive.

● Use the mouse to move the pointer over File in the Main Menu Bar across the top of the screen.

● Move the pointer down to highlight Open and click. A Gem-type file selector box will appear. (If you want more information about the file selector, refer to the Disc Utilities part of this manual.)
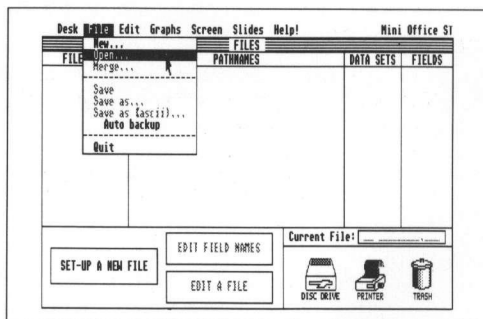
● Double-click on the filename CLOCK.GRA. The drive will whir as the file is loaded and you will be back in the Files screen.

You will see that the name of the file and its pathname are shown on the screen and they are highlighted. Two columns to the right tell you how many data sets and fields there are in the file.

● Click on Edit File in the Edit menu.

The Edit screen is used to edit existing data and enter new data. The CLOCK data represents the amount of money collected for a Clock Restoration Fund over a one year period. It has been split into four areas or fields representing the seasons.

For each season, the Value columns shows how much was collected. This represents one set of data and it has been called Collections. You could add more data sets by plotting the collections over a period of five or ten years although we hope the clock will have been fully restored before then.

Selecting data sets

Data sets and fields are explained in more detail in the Graphics Tutorial section. We won't add any more data, we'll just plot this to see what it looks like.

● Click on Select dataset(s) in the Graphs menu.

   You have to tell the program which set of data you want it to plot.
The CLOCK file only has one set of data – Collections – so that
decision is easy to make.

Now either:

● Click on Collections to highlight it, then click on the ADD DA-
TASET button

   or

● Click and hold on Collections and drag it into the To Be Plotted
column.

   Once there, the blank area at the bottom of the screen will show
some fill patterns. One looks like rabbits, the other like clocks.

● Click on the clocks pattern (you can click on the rabbits, too, if you
wish). An enlarged version will appear and the Fill column will
show a section of the pattern.

   Now let's draw a graph.

Plotting the graph

● Click on Bar chart in the Graphs menu.

● Click on the DRAW BAR CHART button. The screen will clear and
the chart will appear.

   You can see the fields listed along the bottom of the chart and the
values listed up the left.
   This is just one way of displaying the data. It shows us that
people gave more generously in the Winter. Perhaps in order to
encourage people to dig a little deeper, it would be useful to show
the total amount of money collected.

● Click anywhere on the screen to return to the Bar chart screen.

● Click on Line graph in the Graphs menu.

● Look at the Style icon. If it doesn't show a rising line like this:

STYLE

click on it until it does.

● Click on the DRAW LINE GRAPH button.

That's more inspiring. It shows the cumulative amount of money collected over the year.

Adding text

We can make the presentation even more informative by plotting both graphs on the same screen and adding text.

● Click on Clear screen in the Screen menu.

● Click on Yes in answer to the confirmation prompt.

● Click on Select screen area in the Screen menu.

● Select the top right hand corner of the screen.

● Select Bar chart again from the Graphs menu and draw it.

● Click to leave the screen.

● Select the lower half of the screen in the Select screen area dialogue box.

● Select Line graph and draw it.

● Select full screen size again.

● Click on Art screen in the Screen menu.

● Click on the TEXT button in the selection panel at the bottom left of the screen. A set of text options will appear next to this.

● Click on 3 in the Height Row.

- Click on Bold.

- Click on the main screen area. You will see the whole screen and a text input panel will appear.

- Type in:

  > **Clock Restoration Fund**

  and press Return. The text will now take the place of the pointer.

- Move the mouse to position the text in the top left corner of the screen and click.

- The text input panel will appear again. As we don't want any more text this size, click on Cancel.

- Select Height 1 and add more text. You might produce something like this:
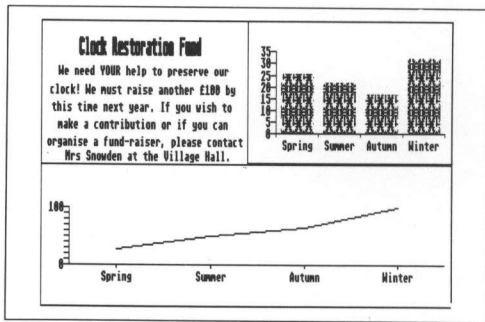
If you position the text in the wrong place, clicking on the UNDO button will remove the last operations performed in the Art screen.

Saving the screen

- Make sure a blank disc is in the drive.

- Click on Save screen in the Screen menu.

- Enter the filename CLOCK. If you are in medium resolution the file will automatically be given the extension PI2. If you are in high resolution the extension will be PI3.

- Click on Save or press Return. We will use this screen later as part of a slide show.

    That concludes the Quick Start section of the manual. You have worked through all the major steps required to produce a graph.

BASIC CONCEPTS

Mini Office Professional Graphics (MOPG) provides a simple but powerful and flexible way to display numeric data in an easy-to-understand form. Figures which look meaningless in themselves can be illustrated and brought to life quickly and easily.

A quick glance at a graph can tell you more about a list of figures than an hour spent pouring over the data. This is why TV programs which present viewers with numeric information usually illustrate it with a graph. You may see the rise and fall of interest rates plotted against the rise in the cost of living. During political elections, gains and losses are often illustrated with bar charts. Programs about money and the Stock Market use graphs and charts to show movement in the money markets. Even farming programs use graphs to show price fluctuations and how they are affected by variations in production.

Applications

Mini Office Professional Graphics has a wide range of applications. It will prove invaluable in any situation in which it is necessary to make sense out of a set of figures. Here are just a few examples of its many uses:

● Individuals can use it to compare income and expenditure, to analyse stock market holdings or to check the movement of foreign currencies before booking a holiday. It can be used for applications as diverse as checking the miles-per-gallon performance of a car and analysing the effect of the weather on honey production – one for the apiarists.

● In education it can be used to illustrate projects in which students acquire numeric data. The results of chemistry and physics experiments can often be helpfully analysed with the aid of a graph. An entire project could be based around the use of graphs and charts in real world applications. Teachers can use it to analyse exam results and attendance rates. The program is simple enough to be used and understood by secondary school students and by older junior school pupils.

● Statisticians, economists, scientists and specialists in other numerate disciplines will be able to show their findings to others in an easily understood format.

● Business users who have to analyse figures, prepare forecasts and write reports will be able to illustrate their findings with meaningful graphs. The analysis of sales, costs and performance over a period of time is ideally suited to this type of interpretation. The slide shows will be particularly useful, especially during training sessions, seminars and report presentations.

Entering data

You can enter data into Mini Office Professional Graphics in two ways.

● You can key it directly into the program using the ST's keyboard. This is probably how you will enter data for most of your graphs.

● If you have saved a file from another MOP program in Ascii format (with a MOF extension) – for example, from the MOP Spreadsheet module – you can load it directly into MOPG. This is an extremely useful, quick and convenient method of producing graphic displays of spreadsheet applications. "What if" questions, and solutions can easily be compared graphically, side by side.

TUTORIAL

If you've tried a few of the other options as you've worked through the Quick Start Guide you'll have found that most work exactly as you think they will. However, it's still nice to know exactly what all the functions do and when and how to use them so there follows a Graphics Tutorial which will explain everything you need to know about Mini Office Professional Graphics.

Graphics Tutorial

Make sure you have your work disc to hand – the one you saved the CLOCK screen to – as we'll build up a collection of screens to use in a slide show.

Start afresh with a blank files screen in front of you. Place your work disc in the drive. To recap, very briefly, the basic procedure for creating a graph is as follows:

● Enter or load the data.

● Select the data sets you want to plot.

● Select the type of graph you want to use.

● Plot the graph.

● Add text and further graphics.

The Files Screen

Let's begin by plotting a simple graph about something of interest to most of us – money.

Let's assume you've just received your electricity, water, gas and telephone bills all on the same day. You decide you would like to see just what proportion of your hard-earned cash goes towards keeping a roof over your head and how much is left for life's essentials such as your holiday in the Bahamas and that new Porsche you have been promising yourself.

You amass your final demand notices over the past year and come up with the following figures:

	Quarters of the year			
	1st	2nd	3rd	4th
Elect	90	75	50	100
Water	50	50	50	50
Gas	120	80	60	110
Tel	110	85	97	145

Start New File

To enter this data into the program proceed as follows:

● Select Files from the Edit menu and click on it, if you are not already on the file screen.

● If any files are already listed click on the trash icon and OK to delete them.

● Click on the SETUP A NEW FILE. The file selector will appear and the extension *.GRA will be highlighted in the Wildcards panel. The .GRA extension is used for graph files.

● You'll notice the .GRA extension has appeared in the filename box. It's waiting for you to enter the name of the file you wish to create.

● Type in:

> **BILLS**

from the keyboard and press Return or click on START.
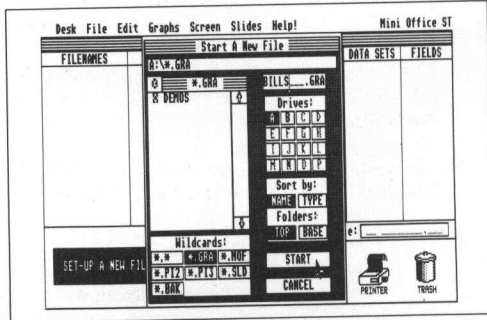
The screen will clear and you will see BILLS.GRA in the Filenames column and its pathname in the Pathnames column. The filename also appears on the right of the screen in the Current File panel.

You will notice that the filename has been prefixed with the figures 01. Mini Office Professional Graphics can hold upto 10 files in memory at once on a 1040ST (or bigger), though unfortunately, only one on a 520ST, and this figure merely indicates that BILLS is the first.

You will also notice that the two buttons beside SETUP A NEW FILE which were previously faded and unavailable can now be selected.

Data Sets and Fields

You will have noticed another two columns on the right of the Files screen labelled Data sets and Fields. In our BILLS example, the figures refer to the amount spent in four areas – electricity, water, gas and the telephone. These four areas are known as Fields.

Each field has four sets of data associated with it, one for each quarter of the year. These are known, reasonably enough, as data sets. We haven't entered any data yet so both these columns show 0.

Entering Field names

The next step is to enter the Field names.

● Click on the EDIT FIELD NAMES button and a new screen will appear – you can see the name in the window title bar at the top of the screen. On the right of the bar is the current filename.
   You will see the figures 1 to 10 on the left of the screen. This is where the field names are entered and you can have up to 100 fields. Move through the fields using the scroll bar (if you are unfamiliar with scroll bars read about them in the Disc Utilities section of this manual).

● Click anywhere on the line next to the figure 001. The line will highlight and a text cursor will appear.

● Type in:

   Electricity

and press Return. The next line will automatically be highlighted.

● Enter:

| Water, | | Gas | and | | Tel |

in the same way.
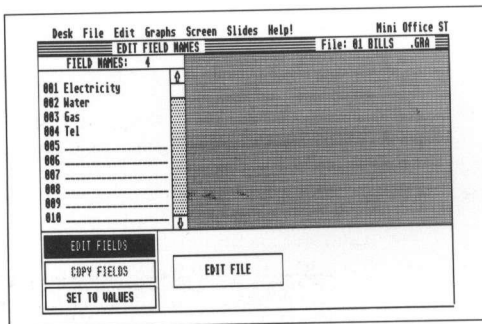
● To stop editing the Field Names press Return again. The number of field names you have entered is shown just above the names. It should read 4.

Now we can enter the data.

The Edit Screen

● Click on the Edit File button to take you to the Edit screen. Notice the name of the screen – Edit – and the filename in the window title bar. The number of fields is shown near the bottom right of the screen.

● We have four sets of data – or data sets – to enter so click on the ADD A NEW DATA SET. The first four rows of the Value column will fill with zeros and the Current Data Set panel will highlight showing the figure 001.

● You can just press Return to confirm that it is data set 1 you want to enter but you can also give the data set a name. If you ever have

more than a couple of data sets you will find that naming them is very helpful. Enter:

$$\boxed{\text{1st Q}}$$

and press Return.

● Click on the first row in the Value column – the Electricity row. It will highlight and offer a text cursor for you to enter a value.

● So enter it:

$$\boxed{90}$$

and press Return. As in the Edit Field Names screen, the cursor automatically moves down to the next item.

● Enter the first quarter amounts for Water, Gas and Tel.

If you make a mistake you can re-enter any value simply by clicking on it, remember to press return twice once you have finished. You can also edit the Field Names from this screen, again by clicking on them. Similarly you can also change the name of the current data set but let's not do any of these things just now.

Data Set Statistics

After entering the first set of data you will notice that the DATA SET STATISTICS button has become selectable. Let's click on it.

```
 Desk File Edit Graphs Screen Slides Help!              Mini Office ST
═══════════ EDIT ═══════════════════════ File: 01 BILLS   .GRA ═══
    FIELD NAMES              VALUE                  GROUP
 001 Electricity              90.00
 002 Water                    50.00
 003 Gas              ┌─────── STATISTICS ───────┐
 004 Tel             │   Dataset: 001 1st Q        │
                     │                             │
                     │  Number of items: 4         │
                     │   Sum of values: 370.00     │
                     │  Arithmetic mean: 92.50     │
                     │ Standard deviation: 26.81   │
                     │                             │
    Current Dat      │           OK                │  Fields: 4
  ┌─────────────┐    └─────────────────────────────┘
  │  MOVEMENT   │ ADD A NEW DATA SET  EDIT FIELD NAMES
  │  ⇧    ⇩     │   GOTO DATASET    DATA SET STATISTICS   🖨    🗑
  │ ⇧10  10⇩    │ Decimal places: 0 1 2 3 4 5 6         PRINTER TRASH
  │ S⇧   ⇩E     │
```

The Statistics window analyses the current data set and provides some statistical information:

● **The Sum of values**. This simply adds all the values together.

● **Arithmetic mean**. This is what statisticians call the average. It is the sum of the values divided by the number of values.

● **Standard deviation**. This is another statistical calculation and used as a measure of variation. It gives the average deviation of a set of values from the mean. The formula used to calculate it is quite complex and if you are involved with statistics you will find this instant calculation very useful.

As we have some data in the program now, we could plot a graph. But let's put the other three sets of data in first.

● Exit the statistics box by clicking on OK.

● Click on ADD A NEW DATA SET. The Value column will fill with zeros again and the Current Data Set panel will highlight this time showing the figure 2.

● Give the data set a name. We're going to enter the second quarter's figures so enter:

2nd Q

and press Return.

● Enter the second quarter's values in exactly the same way as you entered those for the first quarter.
● Add two more data sets for the third and fourth quarters in the same way.

Moving through the data sets

You can examine the data sets with the Movement panel in the lower left of the screen.

● The top two arrows take you to the previous or next data set – click on them and watch the Current Data Set panel.

● The middle two arrows also move you backwards and forwards but in increments of 10 data sets.

● The last two arrows move to the start and end of the data sets.

You can also go directly to a data set by clicking on the GOTO DATA SET button and entering the number of the data set you want to go to.

You're probably wondering what the Group column is for. It's used in conjunction with Pie charts and we'll come back to it later in the Pie chart section.

Trashing data sets

The Trash icon lets you get rid of unwanted data sets.
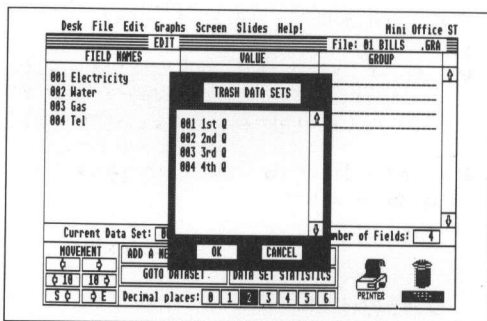
● Click on the Trash icon and a window containing the selected data sets will appear.

● These can be selected for trashing by clicking on them in which case they will highlight. Clicking again de-selects them.

● Select those you wish to remove then click on OK.

Printing data sets

After entering data, it's often useful to have a printout of it either for reference or to check against the original source.

● Click on the Printer icon. This opens a window similar to the Trash data sets.

● Select some data sets for printing by clicking on them.

● Click on OK. Another window appears allowing you to select the type of printout.

(All the programs in the Mini Office Professional range have been configured to work with standard Epson-compatible printers. If you want to use a non-Epson-compatible printer please refer to the section on Installing your printer at the end of this manual.)
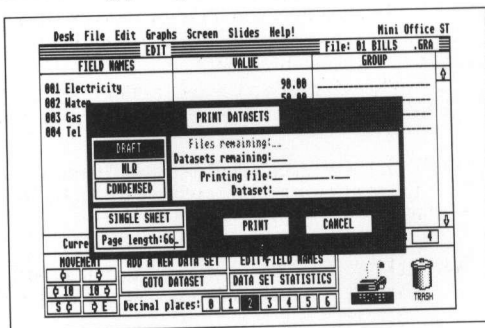
● Select NLQ or CONDENSED by clicking on it.

● You can click on CANCEL to abort the operation or send the data sets to the printer by clicking on PRINT. If a printer is not on-line, a panel will appear informing you of the fact.

As the data sets are printing, the Printer Panel will keep you informed of their progress.

Select Data Sets Screen

Before we can draw a graph we must tell the program which data to use.

● Point to Graphs in the Main Menu Bar and click on Select dataset(s).
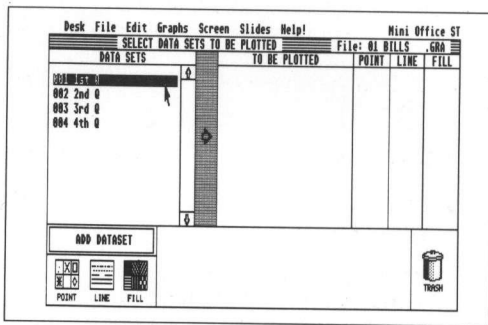
Here's a new screen – look at the title in the window title bar. Notice that the current filename is still shown on the right of this bar and it's still BILLS.GRA.

The window on the left contains the data sets you have entered. Let's select the first data set for plotting. You can do this is two ways:

● Click on the required data set, namely 001 1st Q. The line will highlight and the button beneath labelled ADD DATA SET will become selectable.

● Click on the ADD DATA SET button and the first data set will appear in the next column, the one labelled To Be Plotted.

or:

● Click and hold on the required data set. When it highlights, drag it into the To Be Plotted column and release the mouse button. This is a quick way to select data sets.

Data sets and graph types

A maximum of 10 data sets can be selected for plotting but some graphs can only plot one data set at a time. Here's a list of the graph types and the number of data sets they can plot:

Line graph	1 to 10
Bar chart	1 to 10
Pie chart	1
Area graph	1 to 10
Scatter graph	1

If you select several data sets for plotting and the graph you choose can only handle one, it will plot the set which is highlighted in the To Be Plotted column.

You will have noticed that when the first data set was selected for plotting a new panel appeared at the bottom of the screen.

You have probably already connected the three columns on the right labelled Point, Line and Fill with the icons on the lower left of the screen. We'll come back to these in a moment but now you're probably eager to plot a graph. We'll only use one data set so if you have selected more than one, trash them as described earlier.

Plotting a graph

● Move the pointer to the Graphs menu and click on Bar chart. Notice the screen name in the window title bar.

● Click on the button labelled DRAW BAR CHART.

● Click the left mouse button. This always takes you back to the graphs main screen.

● Look at the Style icon and click on it a few times. It will cycle through five different icons. Select different Styles and click on Draw Bar Chart to see how the chart changes.

Even though there are five styles you will only see two different types of chart. That's because only one data set is being plotted. Let's add the other data sets:

● Move the pointer to the Graphs menu and click on Select Data Set(s).

● Using one of the methods described earlier select all four data sets for plotting. Select them in the order: 1, 2, 3 and 4. If you select a data set out of order, Trash it.

Notice that different patterns appear in the Line and Fill columns as you add the data sets. The program does this for you automatically but you can select and design your own. We'll come back to this in a moment but for now:

● Select Bar chart again from the Graphs menu.

● Click on the Style icon until the following Style is shown:

STYLE

● Click on DRAW BAR CHART and you'll see that all four data sets have been plotted side by side.

● Select the next Style:

STYLE

● Then draw the graph again. The information is presented in the same way but this time we have a 3D chart.

You can see at a glance which quarter gave you the largest bills. Or can you? You should be able can see that the yearly telephone bill was higher than the gas bill which was higher than the electricity bill which was higher than the water rates.

● Select the next Style:

STYLE

● Draw the chart.

● Select the next Style and draw the chart.

STYLE

This is better! Instead of lining up the quarterly bills side by side, they are now stacked on top of each other. Now it's easy to see which caused the most damage to your bank account.

● Select the last Style:

STYLE

This produces a 3D version of the previous chart. You can see that different styles of graph are useful for highlighting different aspects of the data.

You now know enough about the program to choose your own data sets, plot different types of graphs and select different graph Styles. You may want to try some of these options before continuing.

If you use the BILLS data some graphs will be drawn with some data behind other data. On others you may find it difficult to relate the graph to the data. This is because different types of data are best represented in different ways. We'll explore this in more detail in a moment but first let's complete our tour of the Select Data Set(s) screen.

Points, Lines and Fills

Points, Lines and Fills are used to help make graphs easier to understand and more attractive.

● If you're not already there, click on Select Data Set(s) in the Graphs menu and make sure the four data sets are in the To Be Plotted column.

POINT   LINE   FILL

● Points and Lines are used with Line and Scatter graphs.

● Fills are used with Bar, Pie and Area graphs.

Points

Points are used on graphs to 'point' to the position where the values are. This will often be obvious as the line will probably bend when the value changes. But let's try it anyway.

● Select the Line graph.

● Click on the Style icon until it reads TOTAL then draw the graph.

This adds together the values of all the data sets in each field, plots them and joins them up with a line. It doesn't really display the information to its best advantage although it gives the same basic information as a stacked bar chart. However, it will suffice for a demonstration on the use of Points.

● Go back to the Select Data Set(s) screen and click on the first data set in the To Be Plotted column to highlight it.

● Click on the Point icon if it's not already highlighted:
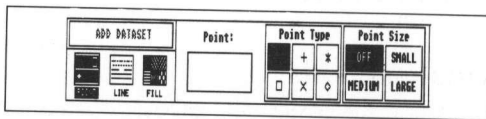
The Point column says OFF which means that no points will be plotted.

● In the Point Type panel click on the asterisk.

● In the Point Size panel click on SMALL.

You will see that the entry in the Point column has changed to reflect your selection.

● Now plot the Line graph (using TOTAL again) and you will see that the asterisks mark the values of the data used to plot the graph.

● Return to the Select Data Set(s) screen.

● Click on 2nd Q in the To Be Plotted column and select a different type of Point.

Note that the dot is just that – a dot – and is only available in one size.

● Plot the graph and you'll see no difference. That's because the TOTAL graph only plots one line.

● Select one of the other Styles and plot the graph again. (The uses of different styles of graph are explained a little later in the Line graph section of the Tutorial.)

● Select different Points for the other data sets and see how they look on different Styles of Line graph.

Lines

You've probably worked out what the lines do by now – they are used to differentiate between the different data sets in Line graphs.

● Return to the Select Data Set(s) screen.

● Highlight the first field by clicking on 1st Q in the To Be Plotted column.

● Click on the Line icon.

A new panel will appear to the right of the icons. From the Line Width box you can select four different thicknesses of line – click on the one you require.
The box to the right of that is used to select different line patterns. Note that the patterns are only available if the thinnest line is selected and selecting a pattern will automatically change the line width to thin.
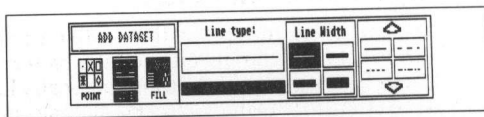
There are 20 predefined line patterns which are shown four at a time in the Line type box.

● Scroll through the patterns by clicking on the up and down arrows.

● Select a Line type by clicking on it. As you choose different lines and patterns, your choice is reflected in both the Line column and the Line type box.

You can redefine any of the line patterns by clicking on the line definition buttons beneath the Line type box. Try editing the solid line. Any alterations you make will be saved with the file so make it solid again before continuing.

Fills

These are used to differentiate between different fields in Pie charts and different data sets in Bar charts and Area graphs.

● Click on the Fill icon.

Fill patterns are selected by scrolling through the selector box with the up and down arrows. A hundred fills have been predefined including several picture fills (scroll through to the end to see these by clicking on the bottom arrow).
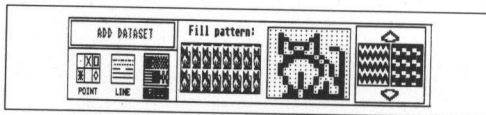
● To select a fill, click on it. It will be allocated to the currently-highlighted data set.

Like the lines, fills can be edited by clicking pixels on and off in the window to the left of the selector box.

Selecting Points, Lines and Fills

If you want to alter a point, line or fill on a data set, there is an easy way to select it. Simply click on the pattern in the relevant point, line or fill column. This will automatically highlight the associated data set and call up the correct Point, Line or Fill panel at the bottom

of the screen. Alterations to both lines and fills are saved when you save a file.

Saving screens and data

That completes the data set selection process. Before we continue, draw your favourite graph using the BILLS data and save it for use in the slide show:

● Draw the graph.

● Click on Save screen in the Screen menu. The correct extension for the resolution you are running in will be automatically selected. This will be PI2 or PI3.

● Type in:

> **BILLS**

and press Return.

Note this only saves the screen. It's a good idea to save the data, too, in case you want to draw a different type of graph at a later date.

● If you now click on Save in the File menu the data will be saved with that filename – BILLS. It will be given the extension .GRA so it will not overwrite the graphic screen you've just saved.

● If you want to save it with a different name click on Save as... in the File menu. This opens the file selector window and allows you to type in a new name. If you do change the name, the new name will automatically be given to the file and will appear in the Filenames column.

GRAPHS – TYPES OF APPLICATIONS

In this section we'll look at each of the graphs in turn and the kind of applications they are suited to.

If you've looked at the graph screens you'll have noticed that many have similar icons and functions. Where functions are identical, they are only described in relation to the first graph that uses them. It's probably a good idea, therefore, to continue working through this Tutorial in the order it's presented. If you skip ahead you may find you have to skip back.

Line graphs

Line graphs have many uses. They are ideal for illustrating figures which vary over time. For example, increases – or decreases – in a company's profits, the fluctuation of stock market prices or the monitoring of weekly exam results. They can also be used to illustrate data in which one value varies with another.

● If you are not already in the Files screen click on Files in the Edit menu and if you have a 520ST trash any existing file.

● Click on Open in the File menu.

● Double-click on the PROFITS.GRA file. When it has loaded you will see that it has three data sets and 12 fields.

● Click on Line graph in the graphs menu.

Individual Style

When you save a file, the program saves the selected Points, Lines and Fills along with the data so you can go straight to the Line graph screen and draw the graph. We'll start with the Individual Style icon which plots each data set as a separate line.

STYLE

● If this icon isn't showing, click on Style until it is.

● Click on DRAW LINE GRAPH. You should see this:
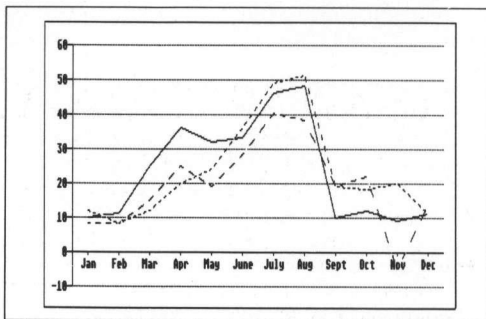
This is a graph of the profits of the Lickem Lolly Ice Cream company for the three-year period 1986 to 1988. You can see that the general trend is to make more money during the summer months although there are yearly fluctuations either side.

Total Style

● Select the Total Style icon:

● Draw the graph. This adds up each of the selected data sets and plots the result as one graph. It shows the total profit over the last three years on a month by month basis.

Cumulative Style

● Select the third Style:

● Draw the graph. This moves through a data set adding each value to the total of the previous ones before plotting. There are three data sets so there are three lines.

If all the values are positive, the line will to rise as the graph moves from left to right. If there are any negative values in the data, however, the line will dip sharply – as it did one chilly November in 1987.

The final points on the right are the total profit made that year. Using the Cumulative graph, therefore, it is easy to compare each years' overall performance.

Let's look at the other icons on the Line graph screen.

Scaling

● Click on Edit file in the Edit menu.

● Use the Movement arrows and the scroll bar arrows to examine the

data. You will see that the values range from -500 (November 1987) to 5,100 (August 1988).

● Select Line graph again.

● Select the Individual Style.

The range of values plotted on the vertical axis (commonly called the Y axis) are shown in the panel above the icons as Y-Maximum and Y-Minimum values. At the moment they are greyed out:
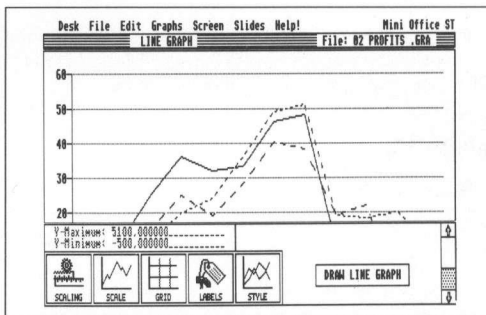
When you plot the graph, however, you will see that the values against the vertical axis only range from -10 to 60.

The program does this because it can accept data values over an enormous range. If it tried to label the axis with 10-digit numbers there would hardly be any room left on the screen for the graph. (You can put your own labels on the screen in the Art screen but more about that later.)

The program makes a decision based upon the range of the data it has been told to plot – the difference between the highest and lowest values. It interprets the data in such a way as to fill the screen with the graph. In other words it scales the data.

If the data consists of large values, it will scale it downwards, if the data contains small values it will scale it upwards. For this reason the Y axis will always show a range of from 0 up to 100 (or less). If a value would take it over 100 it will reduce it to 10 and add another 0 to the Scaling Factor. We can easily demonstrate this:

- Click on Edit file in the Edit menu.

- Select the 1988 data set.

- Click on the August value and edit it to 10000.

- Plot the Line graph again and you will see that the Y axis has been scaled down from -2 to 10.

   The amount by which the program has had to scale the data can be shown with the Scale function.

- Click on the Scale icon and a small rectangle will appear near the top of the icon:

SCALE

- Select the Individual Style and draw the graph. The mouse will be attached to a dotted rectangle which you can place anywhere on the screen.

- Position it near the top of the screen and click on the left mouse button. The rectangle will fix and show the current scaling factor, in this case *1000.

- Return to the Edit screen and edit the August 1988 value back to 5100.

- Plot the graph again. Now the scaling factor is back down to *100.

   The scaling process is automatic. Remember, graphs are best used to demonstrate and illustrate information and indicate trends. If you want to show accurate figures these are much better presented in table form.

Saving the screen

- Save the screen in the same way as you saved the screen from the BILLS data.

Selecting your own axis range

● Click on Files in the Edit menu and if you have a 520ST trash any files in memory.

● Click on Open in the File menu.

● Select and load the INCOME.GRA file. This contains data to show how our national income rose by 10 per cent in one year (don't ask exactly what year it was).

● Select the Individual Line graph and draw it.

The graph is in proportion and because there is a zero line at the bottom it puts the values in perspective. It looks like a 10 per cent increase. But it's not very detailed and it's not very impressive, is it?

● Click on the Scaling icon and the Y-Maximum and Y-Minimum values will become selectable:
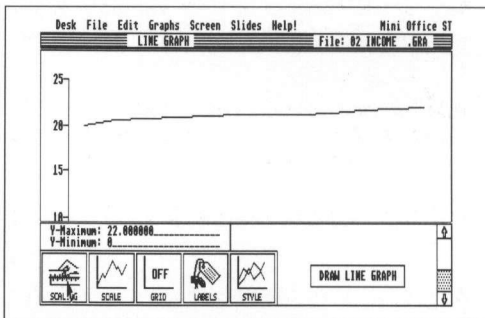
Let's home in on the area of interest:

● Click on the Y-Minimum value. It will highlight.

● Change the value to 20 and press Return.

● Draw the graph.

That's a far more impressive climb! Now we can see by exactly

how much our income rose on a month by month basis. But can this graph be using the same data? Yes, it can!

● Click on the Scale icon to select the scale function and plot the graph again to see what the scaling factor is. You'll get a value of *0.1.

What we have done is to use a quite common 'graphical' technique which homes in the area in which the values fall. That 10 per cent increase looks enormous when taken out of context. Such a 'scaling down' can be very informative but, if presented without proper or adequate explanation, it also can be downright misleading.

● Click on the Scale icon to turn off the manual scaling function.

Labels

Labels are the names given to the data fields. In the INCOME file it is the months of the year. In BILLS it was the commodities: Electricity, gas and so on. Labels also refers to the values shown on the Y axis.

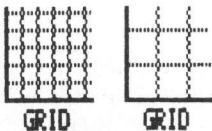● Click on the Labels icon to toggle the labels function on and off.

LABELS

● Draw the graph to see what it looks like without labels.

You may want to remove the labels from a graph in order to insert your own in the Art Screen.

Grid

Grids can be useful for helping the eye line up the values in the Y axis with the data fields in the X axis. You can have fine coarse grids:

GRID   GRID

● Click on the Grid icon to cycle through them.

● Draw the graph using the selected grid sizes.

Saving the screen

● Draw a graph with the INCOME data and save the screen.

That completes the Line graph section of this Tutorial. You will find that many of the functions you have learned to use here can be applied to the other graphs, too.

Bar charts

You should have a basic working knowledge of the Bar charts from the Quick Start Guide.

Bar charts are extremely versatile. They can be used to compare and contrast the sizes of related measurements, to illustrate values which change over time (as can Line graphs) and to show the composition of a number of parts which make up a whole.

Styles

Let's load some more data.

● Click on Open in the File menu and load VEHICLES.GRA. This contains data showing the number of motor vehicles licensed in the UK from 1961 to 1981.

● Click on Select Data set(s) so you can see the fills which are associated with the different types of transport.

● Click on Bar charts in the Graphs menu.

Styles 1 to 3 – Parallel bar charts

● Select the first Style icon and draw the chart.

STYLE

In each field, this draws the data sets next to each other, in parallel. It gives us an immediate indication of the proportion of the different types of vehicles on the road.

● Select and draw the chart using Style 2. This shows the same information but in 3-D:

STYLE

● Select Style 3 and draw the chart:

STYLE

This plots the data sets in parallel, too, but instead of plotting them from left to right it plots them from front to back. Data set 1 appears at the front and the other data sets are drawn behind it. (The drawing routine actually draws them from back to front but that doesn't affect the final chart.)

You will notice that the large number of private cars obscures the other vehicles. It is not a clear and informative graph. The simple way to correct matters is to reverse the order in which the data sets are drawn.

● Go to the Select Data Set(s) screen.

● Trash all the data sets (it was explained in the the Edit screen section how to do this).

● Select the data sets in reverse order: 4, 3, 2, 1.

● Now plot the graph. You may want to select the same fill patterns used by the previous selection.

This highlights an important aspect of graph presentation. As Mini Office Professional Graphics can draw many different types of graphs in many different configurations, it is up to you to arrange the data and select the graph best suited to display the data. This shouldn't be a problem by the time you've worked your way through this guide.

For example, although the first way the last chart plotted the data was not terribly clear, it could be used if you wanted to emphasise by just how much private vehicles outnumber all the others.

Styles 4 to 5 – Stacked bar charts

● Select and draw the chart using Style 4:

STYLE

● and Style 5:

STYLE

These Styles stack the bars on top of each other and although they are attractive, it's arguable whether or not they make the data any easier to assimilate other than to make it quite clear that private vehicles greatly outnumber the others.

The problem is one of scale. The scale required to include the private vehicles greatly reduces the size of the other data.

There is no easy way around this problem and again it's up to you to ensure that the data is arranged in a form suitable for graphic display.

One solution may be to draw a separate chart for the problem field. You can easily do this by drawing different combinations of data sets in different screen areas. You could produce something like this:
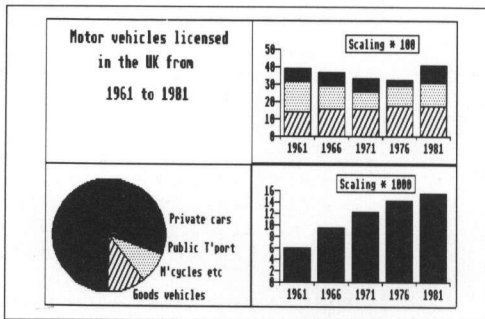

It's up to you to decide how successful this is.

Pie charts

Pie charts are most effective when they are used to illustrate the relative sizes of a number of parts which make up a whole – for example, the breakdown of total expenditure. They can also be used in pairs to illustrate the difference in composition between two related wholes.

Unlike Line and Bar charts, Pie charts can only show one data set at a time.

● Open and load the ACTIVITY.GRA file.

● Select Pie chart from the Graphs menu and draw the chart.

You will notice that the chart doesn't automatically print the field names. The problem facing the program is where to put them! There are two methods of inserting names and they are covered in the sections on Key and Text in the Art screen later in this Tutorial. Here's an example of the sort of labelling they can produce:
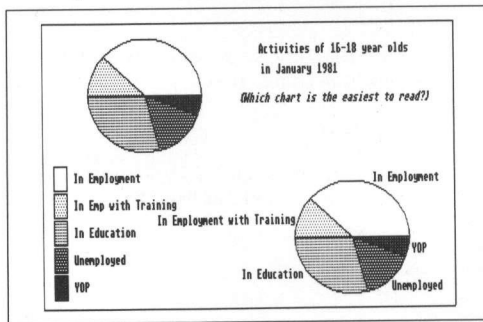
Let's examine the pie Chart icons.

Position

The position box is self-explanatory – try it:
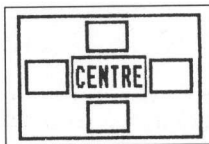
You'll notice that the top and bottom positions have no effect if you are plotting the chart on the whole of the screen. They are for use when you plot on just the left or right half of the screen. Try it:

● Click on Select screen area in the Screen menu.

● Select the left or right hand half of the screen.

● Draw the graph using different positions.

● Reselect the whole screen before continuing.

Style 1 – Normal

The Pie chart Styles are rather different from the Line and Bar chart Styles. Style 1 produces a conventional pie chart as we have already discovered.

STYLE

Notice that the segments are drawn in an anticlockwise order beginning at three o'clock.

Style 2 – Exploded

Style 2 produces an emphasised or exploded chart in which the segments are lifted out from the centre.

STYLE

Style 3 – Selective Explosions

Style 3 lets you be selective about which areas are lifted out.
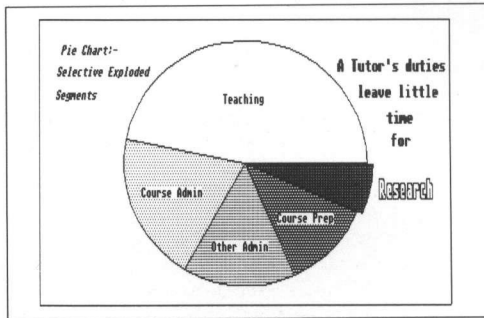

STYLE

This is a very useful technique for emphasising a particular segment, especially if there is a single message you want to drive home.

● Click on the Style icon to select Style 3.

● Draw the chart. The program will ask if you want to explode a segment before drawing it.

● Follow the on-screen prompts.

This technique has been used to produce the following chart:

Style 4 – Grouped

Style 4 groups fields together and explodes them.

STYLE

To use this function we must go back to the Edit file screen and the Group column which we have, so far, carefully ignored.

● Before proceeding, draw your favourite graph using the ACTIVITY data.

● Save the screen in the same way as you saved the Line graph screen.

Now:

● Click on Files in the Edit menu and if you have a 520ST trash any existing files.

● Open and Load the FARMER.GRA file.

● Click on Edit a File. You will see that there are entries in the Group column.

   The data represents farm expenditure and it has been 'grouped' into money spent on animals and other items.

● Select Pie chart Style 1 and draw the chart.

● Select Style 4 and draw the chart. You will see that the 'animal' and 'other' segments have been grouped together.

   The FARMER data has only been divided into two groups but you can have as many groups as you have segments. The groups have been named but for convenience you could simply give each group a single letter or you could number them.
   Note that the grouping procedure sorts alphabetically, not numerically. So, for example, if you give the segments numbers, group 10 will be drawn before group 9 (because 1 has a lower Ascii number than 9). The first segment is always drawn from three o'clock in an anticlockwise direction. (See Hints & Tips for more information on the use of grouping.)
   Groups can be used effectively with lots of segments.

Fill

You will notice that the program automatically selects different fills for each of the segments. The Fill option lets you change these.

● Click on the Fill icon until it shows Select.

SELECT
FILL

● Draw the chart.

   The first segment is drawn on screen and a Fill window appears. This tells you the number of the segment and the name you've given it.

● Scroll through the fill patterns by clicking on the left and right arrows.

● When you see a suitable pattern, click on it.

The segment will fill with that pattern, the next segment will be drawn and the Fill window will pop up again.

You will notice that the indicator box beneath the pattern you chose has turned black. This is just to remind you that the pattern has been used. You can still use it to fill any of the other segments.

The Exit box on the Fill window will leave the graph on screen in its present state of development.

● Draw the chart completely using your own choice of patterns.

The program remembers the fills and the order in which they were selected.

● Click on the Fill icon to return it to Previous.

PREVIOUS
FILL

● Draw the chart again and you will see that it uses the fills you just made.

Values

As Pie charts can only show proportions of a whole they can not plot both positive and negative values at the same time.

However, you may have data containing either positive or negative values – or both! – which you would like to display in a Pie chart (to show how company losses are made up, for example). The Values option lets you do this.

+VE

VALUES

● Click on the Values icon to toggle it from positive to negative.

-VE

VALUES

Saving the screen

● Draw a graph using the FARMER data.

● Save the screen in the same way as you saved the other screens.

Area graph

Area graphs are a slightly more specialised form of graph than the ones we've looked at so far. They are a combination of a Total Line graph and a Stacked Bar chart. They are useful for highlighting the cumulative growth of a combination of items.

Let's see what they do.

Style

● Open and Load the ELECTRIC.GRA file.

● Select Area graph in the Graphs menu.
● Draw the graph.

There are two Styles of Area graph. Both tell exactly the same story but one does it in 3D.

STYLE   STYLE

The data illustrates the sales performance of four commodities in an electrical department store over a 10 year period. It shows exactly how each commodity has performed and the contribution it has made to the total sales.

● Go to the Edit screen and use the Movement panel to examine the data sets.

The Area graph works like this: It plots the first data set as a line graph and fills in the area below the line. It adds the values of the next data set to the one it's just plotted, plots the total and fills the area between the two lines.

The value of each data set, therefore, is shown by the area between its line and the line below it. The top line is the accumulative total of all the data sets and is exactly the same as the line produced by the Total Line graph.

Scaling, Scale, Grid and Labels

These have been discussed in relation to the other graphs and operate in exactly the same way.

Saving the screen

● Draw an Area graph using the ELECTRIC data and save the screen.

Scatter graph

Scatter graphs can be used to show a relationship between two measurements. That is, to show that an increase in one value results in an increase (or decrease) in the other.

They can also be useful for plotting the results of scientific experiments when the experimenter is trying to draw a conclusion from the data.

● Open and load the INACTIVE.GRA file.

● Select Scatter graph and draw it.
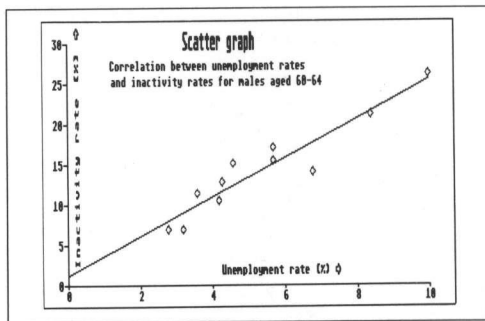
The data plots the inactivity rate of 60 to 64 year-old men against unemployment rates in different regions of the country in 1979. The X axis running from left to right is the unemployment percentage rate, the Y axis is the inactivity rate.

Eleven points have been plotted, each represented by a small diamond (you can change this in the Select Data Set(s) screen).

The graph shows a positive correlation. That is, as unemployment increases so the inactivity rate rises. The line running through the points is a Line of Best Fit. It shows the trend indicated by the correlation of the data.

Here's another example showing the relationship between open spaces and traffic accidents involving children in London. The X axis is the percentage of open places and the Y axis is the percentage of child accidents.
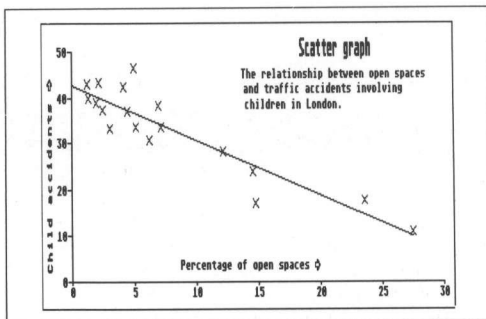
The graph shows that the more open spaces there are in a district, the fewer the accidents. This is a negative correlation and shown by the Line of Best Fit.

Axis

● Click on the Axis icon to switch the X and Y axis.
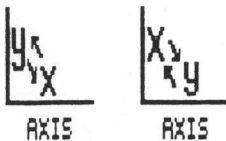
This is is mainly for convenience. You may find that, according to how you've entered the data, some graphs will be easier to interpret if you reverse the axis.

Scaling

The scaling function works exactly as it does on the other graphs but you can now scale the X axis – X-Maximum and X-Minimum. This can be useful for extending the Line of Best Fit to predict trends.

● Click on the Scale icon to select manual scaling:

49

SCALING   SCALING

● Click on the X-Maximum value and edit it to 15. This allows us to follow the Line of Best Fit to see what is likely to happen if unemployment reaches 15 per cent.

● Draw the graph. You can see the Line runs off the top of the screen.

Let's increase the scales still further.

● Edit X-Maximum to 40.

● Edit Y-Maximum to 100.

● Draw the graph.

If the trend indicated by the initial figures is to be believed, the graph shows that an unemployment rate of 40 per cent would lead to a 100 per cent inactivity rate.

That was an interesting exercise. However, it must be pointed out that extending the Line of Best Fit so far from the original data – look at the corner of the graph the original data now occupies – is not guaranteed to lead to an accurate prediction. This depends, among other things, upon the type and quality of the data but such a discussion is beyond the scope of this manual.

Grid and Labels

These have been discussed in relation to the other graphs and operate in exactly the same way.

Scatter graph data

As the Scatter graph plots one value against another, the field titles **must** be numeric. It wouldn't make sense otherwise. If any of the field names are not numeric the program assigns each field an ascending value.

● Now draw a graph using the INACTIVE data and save the screen.

The Slides Screen

The slide show lets you cycle through a number of graph screens rather as a slide projector allows you to move from one slide to another.

Slide shows can be extremely useful demonstration aids during a presentation or lecture.

There is also a demo mode which will cycle through a list of graphs automatically. It can be used to run information for public display, in a window or anteroom or it could be set up to run after a presentation.

● Click on Edit Slide Show in the Slides menu.

Before you can begin to create a slide show you must have access to some screens which were saved using the Save screen option in the Screen menu.

If you have worked your way through this Tutorial you should have saved several screens. If these have been saved to a single sided disc it will be pretty full by now.
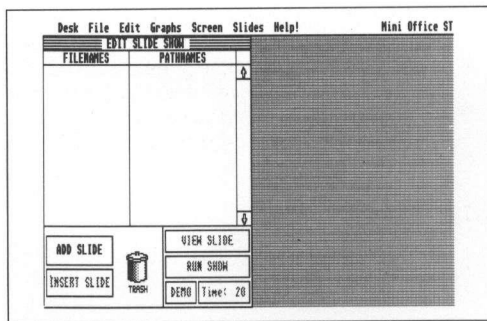
Make sure you have at least three screens saved to disc before continuing. Though you can create a slide show using only one screen.

Add Slide

● Insert the disc containing the screens into the disc drive.

● Click on ADD SLIDE. A file selection box will appear on the right of the screen.

Note that screens saved in medium resolution have the extension PI2, those saved in high resolution have the extension PI3. The correct extension for the resolution you are running in will automatically be selected.

● Select the first screen you want in your slide show by clicking on it and then click on the ADD button in the file selector. Alternatively, just double-clicking on the filename. The name will appear in the Slide Show window along with its pathname.

● Click on ADD SLIDE again and continue adding slides until your list is complete. The list can contain up to 50 slides and the same slide can be selected more than once.

If you have dual drives or a hard disc, you will have access to even more screens. Note that the slide show routine only stores the names of the slides in memory, not the screens themselves.

View slide

If you want to check what's on a screen:

● Highlight the filename by clicking on it in the slide show window.

● Click on VIEW SLIDE.

● Click to exit.

Insert Slide

This performs a similar function to ADD SLIDE but it inserts the new screen above the currently-highlighted filename.

Trashing a Slide

● Click and hold on a filename and drag it to the Trash can to remove a slide from the list.

Alternatively:

● Click on the Trash icon and a Trash Slides dialogue box will appear listing all the files selected so far.

- Click on unwanted files to highlight them.

- Confirm the trash procedure by clicking on OK.

Run Show

- Click on RUN SHOW to get the show on the road. It will start from the currently highlighted slide.

- Click once on the left button to move onto the next slide.

- Click and hold the right button and then click the left button to move back to the previous slide.

    The program will automatically exit the slide show when the last slide has been shown.

Exit

You can leave the show at any time by double-clicking on the left button or by pressing the Escape key. You can only do this while a slide is being displayed, not while one is loading.

Loading and Saving

- When you're happy with your slide show, save the list by clicking on Save Slide Show in the Slides menu.

- Enter a filename of your choice. It will automatically be given an SLD extension.

    Note that this only saves the list of filenames, not the screens themselves. The screens must be available through the pathname listed in the Edit Slide Show window. It's a good idea, therefore, to save the slide show on the same disc as the screens.

- Click on Load slide show in the Slides menu to load a previously-saved slide show list.

Demo

The demo function will cycle through the screens automatically after a preset delay period.

After loading or constructing a slide show list:

● Click on DEMO.

The demo will begin with the first slide on the list regardless of the currently highlighted slide.

● Exit by clicking the left hand mouse button once or pressing Escape. You can only do this while a slide is being displayed, not while one is loading.

Demo time delay

The time delay between the display of each slide can be set by clicking on the Time box. The delay is in seconds and the maximum delay possible is 16 minutes 39 seconds – 999 seconds.

The slide show will work with floppy discs, hard discs and RAM discs. It takes longer to load screens from some discs than it does others and if you make the delay too short as soon as one screen has loaded another will begin to load. If this should happen then hold down the left mouse button.

A reasonable delay for floppy discs is 20 seconds. A RAM disc can change screens in less than five seconds.

Your next step

The aim of this tutorial has been to give you an understanding and good working knowledge of Mini Office Professional Graphics. It should have served to introduce you gently to the way the program works and explained and demonstrated how to create graphs and charts of your own.

Although the program tries to make intelligent decisions about how to display the data, the responsibility rests with you to select the graph and method of display which illustrates the data to best effect.

If you look at the example screens scattered throughout this manual you will find several ideas about how graphs can be used – and please read the Hints & Tips chapter, too. As well as ideas for using Mini Office Professional Graphics, it also suggests which graphs are most suited to displaying various types of data.

Nearly all the program's facilities have been described in the Tutorial and you should now be able to start producing your own graphs. If you need to refer to any aspect of the program's operation you may find it quicker to look it up in the Program Reference section (next chapter).

PROGRAM REFERENCE

This section is intended as a reference guide. If you are unfamiliar with the program, please read the Tutorial section. The descriptions here have deliberately been kept brief and factual.

All the program's functions are listed and explained here following the structure of the software itself. Let's begin with the screen which appears upon loading the program.
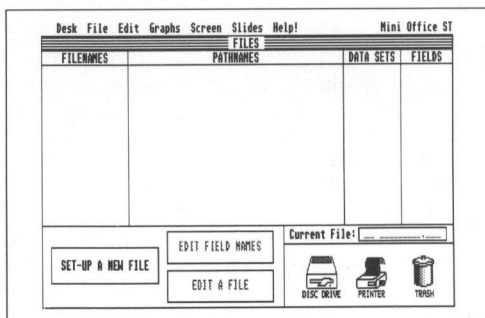
Main Menu Bar

The Main Menu Bar is the central point from which you select the various program options. Sometimes an option will be faded which means it is not available for selection. For example, until you select a data set for plotting, all the graph screens remain faded.

Desk menu

This tells you which desk accessories are currently resident in memory. Clicking on any of these will cause the chosen accessory to run, either from the desktop or from within the program. The set of accessories supplied with this program are discussed in full in the Desk Accessory section.

File menu

This menu provides all the facilities you need for saving and loading graph data.

New Clicking here is identical to clicking on the SETUP NEW FILE button.

Open Used to load a data file into the program (see the file selector under Disc Utilities for further information).

If you load an Ascii file (with a MOF extension) you should, when prompted, indicate whether the data set names or field names were included when you saved the file.

If you want to load a file which has been backed-up, click on *.BAK in the Wildcards panel of the file selector.

Merge Appends a .GRA file to the end of another .GRA file currently in memory. The field names in both files must be identical.

Save Saves the highlighted file under the Filename and Pathname shown in the Files screen.

Save as Allows you to save the current file with a different filename and with a different pathname.

Save as (ascii) Lets you save the highlighted file in Ascii format. It is given a .MOF (Mini Office File) extension. The data could then be loaded into another Mini Office Professional program or into a wordprocessor. It gives you the option of saving the data set names and the field names.

Auto backup Clicking here toggles the function on and off. When it is on a small tick appears beside it in the menu. When selected, during a Save operation it creates a backup file on disc with the suffix .BAK. It updates the backup with each save so you always have a copy of the previously-saved data.

Quit Exits the program and takes you back to the desktop. If any files have been edited since they were last saved, a pop-up box will appear offering you the chance to save them. This is a convenient way to leave the program as it ensures all recent changes are saved.

Edit menu

Files Takes you to the Files screen. This is the only way to re-enter this screen.

Edit field names Takes you to the Edit Field Names screen.

Edit File Takes you to the Edit screen.

Graphs menu

This is used to select the data set(s) and the type of graph you want to plot.

Select dataset(s) Takes you to the Select dataset(s) screen.

Line graph
Bar chart
Pie chart These take you to their respective graph screens.
Area graph
Scatter graph

Screen menu

This is used to select operations dealing with the graphic screen display.

Select Screen By selecting the four corners, it is possible to draw
Area four different graphs on one screen. In practice you will more likely want to create blank areas in which to write text.

Art screen The Art screen allows you to draw lines and shapes and add text to the graphs. There's an Art Screen Tutorial coming up in a couple of pages.

Clear screen This clears the currently selected screen area only. A confirmation box appears in case you select it by mistake.

View whole This reveals the complete graphics screen. If you
screen are in a graph screen you can also show the whole screen by clicking in the screen area above the icons. Exit by clicking the left button.

Print screen This dumps the graphics screen to the printer either horizontally or vertically. Initially the Graphics package is configured for Epson-compatibles, but if you wish to use another printer please refer to the section on installing your printer at the end of this manual. It is possible with the Print screen option to print to both high and low resolution printers as follows.

Horizontal dumps are drawn the right way up and are ideal for inclusion in folders and presentation packs.

HORIZONTAL (1) button should be used if your printer is dumping more than 480 pixels per page for a 80 column printer.

HORIZONTAL (2) button should be used if your printer is dumping 480 pixels or less per page for an 80 column printer.

Vertical dumps are drawn sideways and produce large graphs which are ideal for pinning on noticeboards or for use during a presentation when you want a lot of peple to see one graph.

VERTICAL (1) button should be used if your printer is dumping more than 480 pixels per page for a 80 column printer.

VERTICAL (2) button should be used if your printer is dumping 480 pixels or less per page for an 80 column printer.

Load Screen This loads a complete graphics screen. The extension for the resolution you are running in will be selected automatically – PI2 for medium resolution, PI3 for high.

Save screen This saves a complete graphics screen. The extension will be selected automatically. Screens are saved in DEGAS format so you can load them into any art program supporting the DEGAS format for further modification if you wish.

Slides menu

This controls the creation and running of a slide show.

Edit slide show Takes you to the Edit Slide Show screen.

Load slide show Calls the file selector and lets you load a slide show file.

Save slide show Calls the file selector and lets you save the current list of slide show names. Note, this saves the filenames of the screens only, not the screens themselves. The screens must be accessible to the program via a valid pathname in order to run the show.

Run slide show Starts the slide show beginning with the high-lighted filename. This option allows you to move backwards and forwards through the screens at your own pace.

Demo slide show Cycles through the screens in the slide show list in a continuous display. The delay between slides is determined by the value, in seconds, in the Time box in the Edit Slide Show screen.

Help menu

The Help menu provides you with useful information to enable you to get the most from the program.

Files Screen

This screen allows you to select the data file you wish to work with. You must be in this screen if you wish to load or merge data..
The display is made up as follows:

Filenames Lists up to 10 data files currently residing in memory and available for plotting.

Pathnames Shows the disc drive, folder(s) and suffix the filename is stored under.

Data Sets Shows how many data sets the file contains – up to a maximum of 100.

Fields Shows how many fields the file contains – up to a maximum of 100.

Below the Data Sets and Fields columns is a panel showing the currently-selected file. A file can be made current by clicking on it in which case it will be highlighted in the Filenames and Pathnames columns.

Below that are three icons:

Disc Drive	DISC DRIVE	Clicking here allows you to save any or all of the files held in memory. Any file that has been changed will be highlighted for saving, click on others as required.
Printer	PRINTER	Clicking here allows you to send a copy of any or all of the files to the printer.
Trash	TRASH	Clicking here lets you remove unwanted files from memory.

As well as clicking on the icons, a single file can be dragged to them. Double clicking on a file name allows you to edit the name and path.

There are three buttons on the lower left of the screen:

Set up New File Used when you want to create a new file and adds its name to the file list.

Edit Field Names Takes you to the Edit Field Names screen.

Edit A File Takes you to the Edit screen.

Edit Field Names Screen

This is where the Field Names are entered into the program. They can be edited here, and also in the Edit screen.

The current file's number, name and extension is shown on the right of the window title bar. Use the scroll arrows to move through the field names in the Field Name window. There can be up to 100 fields.
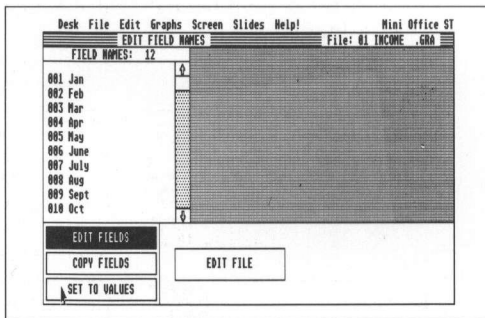
Number of fields The number of fields is shown at the top of the Field Names window. As the name of a field is entered this number is updated.

You can alter the number of fields by clicking here and entering a new value. If this is greater than the number of fields entered so far, the extra fields will be given null string field names (ie. "") and will appear blank.

If it is less than the number of fields entered, the surplus names will appear to be removed from the list. However, they are not lost, merely suppressed, and can be reinstated by increasing the number of fields.

Copy Fields This allows you to copy a set of field names from one of the files in memory to the current file. It can save valuable time if you are preparing a number of graphs with the same set of fields – months of the year, for example.

● Click on COPY FIELDS.

A list of the files in memory will appear to the right of the screen with the current file highlighted. To the right will be a list of the first eight field names of that file.

● Select the file you want to copy the field names from by clicking on it.

● Click on OK if you're happy, CANCEL if you're not.

On a 520ST this option won't be available because you can only load in one file.

Set To Values If you want to plot the relationship between one value and another, you have to give the field names numeric values. The ELECTRIC file, for example, has 10 field names which range from 1979 to 1988. The VEHICLES file has five field names ranging from 1961 to 1981 in five-year increments.

SET TO VALUES will help you fill the field names with numeric values very quickly.

● Click on SET TO VALUES. A dialogue box appears.
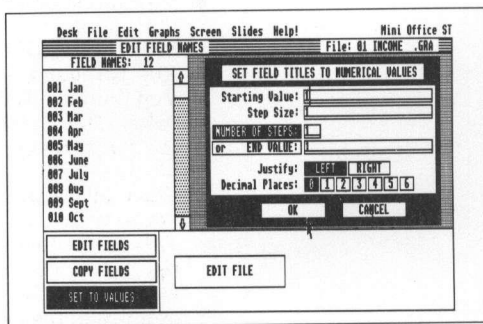
There will be a text cursor in the first window labelled Starting Value. You must now enter three items of information so proceed as follows:

● Enter the Start Value in the first box. Don't press Return.

● Move to next text box – Step Size – by pointing at it and clicking or by pressing the down cursor arrow.

● Enter the Step Size. Don't press Return.

Now you have two choices:

● You can tell the program how many field names you require by clicking in the NUMBER OF STEPS button and entering a value. Don't press Return.

or

● You can tell the program what you want the end value to be by clicking in the END VALUE button and entering a value. Don't press Return.

● Click on the LEFT or RIGHT justification buttons.

● Click on the number of decimal places you require – there's no point in printing them if you don't need them.

● Now press Return or click on OK.

SET TO VALUES is very flexible and versatile. You can enter positive and negative numbers and step values and even set all the names to the same value. This can be very useful for plotting the results of an experiment, for example.

When labels are printed on the graphs, printing begins with the first character which isn't a space. This means that even if a numeric field name is right justified or if spaces are inserted before a text entry, the name will still appear on the graph – or as much of the name as space will allow.

The justification is used, however, in the Art screen when selecting the field names to be placed on screen with the Key function.

Edit File This takes you to the Edit screen and is an alternative to clicking on the Edit file option in the Edit menu.

Edit File Screen

This is where data is entered into the program. The current file's number, name and extension is shown on the right of the window title bar.

Use the scroll bar to move through the data.

There are three columns on this screen:

Field Names This lists the field names which were entered in the Edit Field Names screen.

Value This lists the values given to each of the fields.

Group This is used in conjunction with Pie charts. A selection of fields can be linked together in the Group column by giving them the same name. Fields with the same Group name will be grouped together when the Pie chart is drawn. (See the Tutorial section for more details.)

Names and values in all three columns are entered and edited by clicking on the relevant row and column.

Number of The number of fields is shown beneath the Group
fields column. This operates in exactly the same way as
it does in the Edit Field Names screen and it can
be edited in the same way, too.

Add A New Each file can contain up to 100 sets of data.
Data Set

- Click on ADD A NEW DATA SET to add a new set
  of data to the file. The Current Data Set panel will
  highlight.

- Enter a meaningful name for the data set and press
  Return. The Values column will fill with zeros.

- Enter the values you require as described above.

Current Data This box shows the name of the current data set
Set which may be altered by clicking on and then
editing the existing name.

Movement The Movement arrows are used to travel through
the data sets:

- The top two arrows move backwards and for-
  wards by one data set.

- The middle two arrows move backwards and
  forwards by 10 data sets.

- The bottom two arrows take you to the Start (first)
  and End (last) of the data sets.

  If only one data set has been entered, the Move-
  ment panel will be faded and unselectable.

Goto Data Set If only one data set has been entered, this panel
will be faded. Otherwise:

- Click on it. A pop-up box will appear and prompt
  for the number of the data set you want to go to.

- Enter the number of the data set and press Return
  or click on OK.

Edit Field Names This takes you to the Edit Field Names screen. It is an alternative to clicking on the Edit Field Names option in the Edit menu.

Data Set Statistics Clicking here opens a pop-up box containing the following useful statistical information:

> **Data set number and name.**
> **Number of Fields (items).**
> **Sum of values.**
> **Arithmetic mean.**
> **Standard deviation.**

Printer		Clicking on the Printer icon opens a pop-up box listing the data sets. You can select any or all of them for printing by clicking on them.
Trash		Clicking on the Trash icon opens a pop-up box listing the data sets. You can select any or all of them for trashing by clicking on them.

Select Data Sets Screen

This is where data sets are selected for plotting. The current file's number, name and extension are shown on the right of the window title bar.
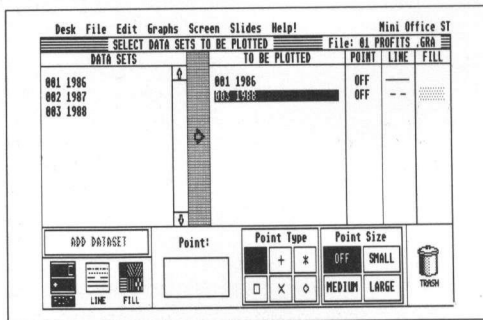
Although a file can contain up to 100 data sets, only 10 can be selected for plotting at any one time.

Data Sets This lists all of the currently-selected file's data sets. Use the scroll bar to scroll through them. Data sets may be dragged from this window to the To Be Plotted list.

Add Data Set Clicking on this button will add the highlighted data set in the data set window to the To Be Plotted List.
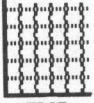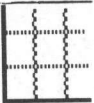
To Be Plotted This shows which data sets have been selected for plotting and the order in which are are to be plotted.

Point This shows which markers have been selected to plot the points on the Line and Scatter graphs.

Line This shows which lines have been selected to draw the data sets in the Line and Scatter graphs.

Fill This shows which Fill patterns have been selected for use in the Bar chart and Area graph.

Select		
	POINT	**Point** – Clicking on this icon will display a panel at the bottom of the screen allowing you to select your required point size and type for use on Line and Scatter graphs
	LINE	**Line** – Clicking on this icon will display a panel at the bottom of the screen allowing you to select your required line type and width for use on Line and Scatter graphs. On this panel you may alter the line types. Note that the line type is only used on the thinnest lines

	FILL	**Fill** – Clicking on this icon will display a panel at the bottom of the screen allowing you to select and alter the fill patterns for use with Bar charts, Pie charts and Area graphs.

A quick way to select or alter one of these patterns is to click in the Point, Line or Fill column against the data set in the To Be Plotted list. This automatically displays the current pattern and correct selection panel at the bottom of the screen.

Trashing A data set can be trashed by clicking and holding
selected on it in the To Be Plotted column and dragging it
data sets to the Trash icon. Alternatively, clicking on the Trash icon will open a pop-up box. Click on any data sets you want to trash to highlight them then click on OK.

The Graph Screens

You will only be allowed to enter a graph screen when one or more data sets have been selected for plotting. In all screens the current file's number, name and extension are shown on the right of the window title bar.

All graph screens have several features in common which are explained below.

● The scroll bars at the bottom right of the screen can be used to raise and lower that part of the screen which appears above the icons.

● Clicking on the view of the graph lets you see the complete screen. Click again to exit.

● Clicking on the Draw buttons, draws the current graph type.

Control icons

With the exception of the Pie chart, all the other graph screens have the following control icons with identical functions:

Scaling		Clicking here toggles between automatic and manual scaling. When on automatic, the program scales the data to make the graph fill the screen. When set to manual you can enter your own Y-Maximum and Y-Minimum values (In the Scatter graph you can also set your own X-Maximum and X-Minimum values). This can be useful to 'home in' on an area of the graph or to extend the range, for example, to follow the trend of the Line of Best Fit in a Scatter graph.
Scale		Clicking here toggles the Scale function on and off. When on, it allows you to place a box containing the scaling factor on the graph screen.
Labels		This lets you draw the graph without any labels (field names). It is useful if you want to insert your own in the Art screen.
Grid		This toggles between no grid and two sizes of grid. If a grid is selected it will be placed behind the graph when it is drawn. It can be a useful aid to

|		help the eye line up values with points on the graph.

Line Graph Screen

The only additional icon to those already discussed is the Style icon. There are three Styles of Line graph:

Style		**Individual** – This plots each data set as an individual line.
		Total – This adds the values of each field across all the selected data sets and plots one line showing a total of all the data sets.
		Cumulative – This plots separate lines for each data set but it performs a running total on the field values before plotting each point. The last point plotted will therefore be the sum total of all the values in that data set.

Bar Chart Screen

Style		**Parallel** – This plots separate bars side by side for each data set.

	STYLE	**Parallel 3D** – This is similar to Style one but the bars are drawn in 3D.
	STYLE	**Regressive Parallel 3D** – Instead of plotting the data sets side by side, this draws them one behind another. In 3D, too. Data set one is drawn at the front with the following data sets behind. If data set one contains the largest values it may obscure the other bars. In such a case, remove the sets from the list to be plotted and reselect them beginning with the data sets with the lowest values.
	STYLE	**Stacked (Totalled)** – This plots the data sets on top of each other. The top of each bar therefore shows the total value across all the data sets for that field.
	STYLE	**Stacked (Totalled) 3D** – This is similar to Style four but the bars are drawn in 3D.
Perimeter	PERIMETER PERIMETER	The bars drawn by the bar graph are usually enclosed by a solid line. Clicking on the Perimeter icon toggles this line on and off.

Axis		This is a toggle which determines if the bars are drawn vertically or horizontally.

Pie Chart Screen

Position		This is used to position the Pie chart on the current screen area.
Style	STYLE	**Normal** – This draws a standard or traditional Pie chart.
	STYLE	**Exploded** – Each segment is lifted out a little from the centre.
	STYLE	**Selective Explosion** – Before each segment is draw, the program asks if you want to explode it.
	STYLE	**Grouped** – This draws the segments in groups according to their entry in the Group column in the Edit screen.
Fill	PREVIOUS FILL	**Previous** – This will plot the previously-selected set of patterns. So, having made a choice with Selective Fill, this

		automatically plots any sub-sequent charts with the same patterns.
	SELECT FILL	**Selective** – This allows you to choose a different set of fill patterns for the segments. Before filling a segment, the program will ask you to choose a pattern for it.
Values	**VALUES** **VALUES**	Pie charts can only illustrate one data set and, by their nature, they can not show both positive and negative values at the same time. The Values icon is a toggle which determines whether the chart draws the positive or negative values in the data set.

Area Graph Screen

The only additional icon in the Area graph screen is the Style icon.

The Area graph plots a data set as a line and fills in the area beneath it. If there is more than one data set, the values of subsequent data sets are added to that of the previous one(s) before plotting. The very top line, therefore, is a sum of all the values of the data sets.

Style	**STYLE**	**2D** – This draws the graph in two dimensions.
	STYLE	**3D** – This draws the graph in three dimensions.

Scatter Graph Screen

There is one additional icon here plus an extra set of scaling parameters.

Axis		This swaps the X and the Y axis of the graph.
	AXIS	
	AXIS	

X-Maximum and X-Minimum These are used in conjunction with the Scaling function. They allow you to set the maximum and minimum values of the X axis to your own values. See the Tutorial section for further details.

Art Screen

This screen is used to add additional textual information to a graph and has many drawing and painting features.

● The scroll bar at the bottom right of the screen let you raise and lower that part of the graphics screen which appears above the icons.

● If a legal option has been selected, clicking in area above the icons takes you into the screen ready to perform the selected operation.

● Exit from the graphics screen back to the Art screen by pressing Escape or double-clicking with the left mouse button.

The Art options are selected from the selection panel at the lower left of the screen.

CLEAR

Clears the graphics screen. Requires a confirmation.

UNDO

Undoes the last operation(s) performed in the graphics screen. Clicking again on UNDO also reverses the last Undo.

Pencil

Used to draw freehand on the screen. Choose one of the 12 nibs and sprays by clicking on the appropriate button. Draw by holding down the left button and moving the mouse.

Shape

Used to draw shapes which are selected by clicking on the required shape button. They are:

Rectangle
● Place the crosshair cursor where you want to site a corner of the rectangle.

● Press and hold the left button.

● Move the mouse and the rectangle will rubber band from the fixed corner.

● When the rectangle is in position, release the button.

Rounded Cornered Rectangle
This is formed in the same way as an ordinary rectangle. But it has round corners.

Circle
● Position the cursor at the centre of the circle.

● Press and hold the left button.

● Move the mouse and the circle will rubber band from the centre.

● When the circle is in position, release the button.

Ellipse
This is formed in exactly the same was as the circle except horizontal and vertical movement will alter the ellipse's width and height.

Polygon

● Position the cursor where a corner is required.

● Click and release the left button.

● Move the mouse and a line will rubber band from that point. Move to a second position and click the left button.

● Continue until the final point is fixed.

● Press the right button and the last point will join to the first point. Up to 100 points can be plotted.

Interiors

All shapes can be drawn in outline only or filled with the fill pattern shown in the box on the right. Select by clicking on the FILLED or EMPTY buttons.

Text

Used to place additional text on the screen. Five sizes (Height), four orientations (Angle) and five text styles are available. REPLACE surrounds the text with a background border so it can be easily read if placed on a pattern. TRANSPARENT prints the text only.

Select all options by clicking on the relevant buttons.

Bullet

This offers 12 types of Bullet which can placed anywhere on the screen. They are useful for drawing attention to a list of facts or observations.

Line

Used to draw straight lines.

● Position the cursor at one end of the line.

● Press and hold the left button and move the mouse. The line will rubber band.

● Site the end of the line and release the button.

Four thicknesses of line are available. If the thinnest is selected you can choose one of 20 line patterns. These can be edited in the Select dataset(s) screen.

Key

This places the names of the data set(s) or fields on the screen alongside their associated Fill pattern, Line pattern or Point marker. It is especially useful with Pie charts which don't automatically print the field names on the screen.

● Click on the DATA SET or FIELD button depending upon whether you want to list the data sets or the field names.

● If you select Data Sets, click on the type of pattern type you want: POINT, LINE or FILL. If you chose Field, FILL is automatically selected.

● The names of the data sets or fields will appear in the Key window. Scroll through them with the scroll bars and select the ones you want to print by clicking on them.

● Click on the display area. Place the rectangle where required and click.

The box below the scroll bar is the Name Length box and determines the maximum length of the data set or field name.

● Alter this by clicking on it and entering a new value.

Below that is the Percentage button. This only becomes available when Field is selected.

● Click on it to select it.

When selected it prints the value of the Fields, as percentages, after the Field names. The percentages will be placed after the number of characters in the Name Length box.

Rubber

Provides a large-area rectangle which paints over the screen in the background colour.

Fill

Offers a selection of 100 fill patterns from the fill selector box. Scroll through them with the left and right arrows. The patterns here can be edited in the Select dataset(s) screen. The fill starts at the end of the spout of the paint can.

Palette

Colour monitors Lets you remix the four colours by altering the proportions of Red, Green and Blue they contain. The four colours are shown above the Fill pattern box. They are background, foreground and two ancillary colours.

● Click on the button above the colour to make it current.

● Alter the mix by clicking on a rectangle in the vertical colour bar. Alternatively, you can hold and drag a colour bar up and down the column.

Mono monitors Clicking on the invert button inverts the colours on your monitor.

Edit Slide Show Screen

The Filenames column shows the names of the selected screens and the Pathnames column shows their route through disc drive and folders.

Add Slide

This opens the file selector box. To add a slide to the slide show list: Click on the required screen in the file selector (the PI2 or PI3 extension will be selected automatically according to whether you are in medium or high resolution) then click on the ADD button in the file selector. The name will be added to the bottom of the slide show list. The list can hold up to 50 slides.

Insert Slide

This works in the same way as ADD SLIDE but the file is inserted in the list above the currently highlighted file.

View Slide

This loads and displays the highlighted screen filename. Exit by clicking on the left mouse button or pressing escape.

Run Show

This starts the slide show beginning with the highlighted slide. Move to the next screen by clicking the left button. Move to the previous screen by holding the right button and clicking the left button. Exit the slide show by double-clicking on the left mouse button or pressing escape.

Demo

This automatically cycles through the slides beginning with the slide at the top of the list. The delay between each slide is in seconds and can be set by clicking on the Time box.

Trash

This is used to remove unwanted files from the slide show list. Click on the Trash icon. A window will open containing the filenames of the slides. Select files for trashing by clicking on them then confirm by clicking on OK. Alternatively, individual files can be trashed by clicking on them, holding and dragging them to the Trash icon.

Hints & Tips

Selecting a graph

The purpose of a graph is to convey a message. It can show lists of numeric data in a form which is easy to read and understand. Common examples include stock market trends and company sales figures. Graphs can help make the complex easier to understand; they can compare and contrast and they can reveal and highlight the unexpected.

Checklist

When creating a graph your watchword should be clarity. Here's a list to check your graphs against, although all the points won't be relevant to every graph you produce:

● Are the objects, events, measurements or items the graph deals with clearly represented?

● Are the units used clearly marked?

● Is the area of geographical coverage clearly stated?

● Is the time during which the data was taken shown?

● Is the scale of measurement shown?

● Have you listed the source of the data?

● Will the reader know how to interpret the graph?

Which Graph?

Some graphs are more effective at representing certain types of data than others. However, once you've entered your data into MOPG you can use it to plot a variety of graphs. Some won't make sense but you may find a different graph shows the data in a new light.

As a guide, here's some applications along with the type of graphs which could be used to illustrate them:

● To show the relative sizes of the individual components which make up a whole. Graph: Pie or Bar chart.

● To show a change in the composition of a whole. Before and after comparisons. Graph: Two Pie charts or Bar chart.

● To Compare or contrast the difference between two or more items. Graph: Two or more Pie charts or parallel Bar chart.

● To show the relative sizes of related measurements. Graph: Parallel Bar chart.

● To show individual items or measurements and their cumulative total. Graph: Stacked Bar chart or Area graph.

● To show how often different measurements occur. Graph: Bar chart.

● To show the change over time of related measurements. Graph: Line graph or Bar chart.

- To show the relationship between two sets of measurements. Graph: Bar chart or Scatter graph.

Pie charts

- As a rule of thumb, try to avoid more than six or seven sectors in a Pie Chart as the detail may obscure the message.

- It is often useful to print the percentage of each segment of a Pie chart inside it. Use the Percentage box in the Key selection panel of the Art screen to discover what the percentages are and put them in the chart using the Text option in Replace mode.

Changing the Segment Order

Pie charts are drawn in an anticlockwise direction starting at three o'clock. The first segment drawn is the first field in the list.

Occasionally you may want some segments to appear at a different position in the chart. The long way of arranging this is to re-enter the data in the order you want the segments to be drawn but you can re-order the segments with the Group function.

When grouping is selected, the first group to be drawn is the one lowest in the sorting order. Sorting is alphabetical. You can therefore specify the order in which the segments will be drawn by giving them each a different group letter: a, b, c, d and so on. Of course, the segments will be drawn in exploded form.

Bar charts

- If the fields in a Bar chart have a lot of accompanying text, plot the chart horizontally on half the screen and put the text in the other half.

- If you have a lot of complex information to illustrate, consider using two charts instead of one.

The Art screen

- Colours can be used very effectively to highlight a particular field. But beware of filling the screen with lots of complex patterns and colours as this could detract from the message.

● Use Pencil with a fine nib to erase parts of the screen which are too small to access with the Rubber. Draw using the background colour (white default).

● Use Bullets to tick off a list of information.

DESK ACCESSORIES

Included on your Mini Office Professional program discs is a set of handy desk accessories. If you copy these on to any disc, each time you boot up your ST with that disc the accessories will be loaded into the ST's memory. This means you can use them from within any of the main Mini Office programs – or for that matter any other program, provided it leaves enough memory space for them.

You can now have have instant access to a powerful and practical set of memory-resident desktop tools without ever having to leave the program you're currently running. There's an easy to use calculator, an all-purpose Ascii text editor, a memo pad for short notes and reminders, and an invaluable set of disc housekeeping utilities.

Configuring your accessories

Before starting to use your desk accessories you may need to reconfigure them to suit your own requirements. To do this a special utility program has been supplied with your software.

This allows you to specify two things: Which of the desk accessories you wish to place in memory and, if you decide to include the text editor or memo pad, how much memory you wish to allocate to their respective text buffers.

When you receive your copy of the desk accessories they will be pre-configured so that all four accessories load into memory and the text buffer is set to 8k. We have chosen this setup so that new users can have access to all the accessories at once, while still remaining within the memory constraints of the minimum ST hardware system – a 520ST micro.

If you wish to change this setup, either to take advantage of a more poweful hardware system or perhaps just because you don't need all the accessories, you should run the configuration program as follows:

From the Gem desktop, with no windows open, insert the disc containing your backup copy of the accessories – all of which can be found in a folder called ACCS – into drive A. Next click on the Drive A icon to open a window for this drive. Find the folder called ACCS and double click on it to enter. You will see a program called ACCONFIG.PRG, which is the configuration utility. To run it just double click on it.

As soon as the program has loaded you will be presented with the accessories configuration panel, shown on the next page.
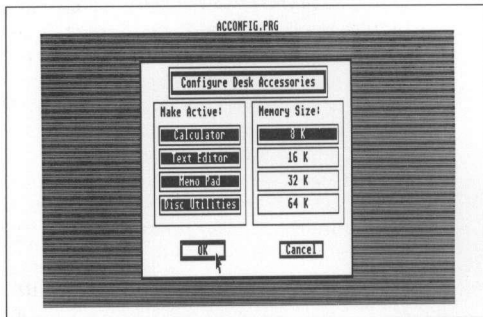
The panel contains two boxes, each containing four large Gem buttons. The buttons in the left-hand box indicate which accessories will be made memory resident on boot-up. They are toggles which can be turned on and off by clicking on them. An accessory will be included on boot-up when its button is highlighted in inverse video.

The buttons in the box on the the right of the panel provide four possible settings for the size of the memory buffer of the text editor and/or memo pad if you choose to include either of these. These buttons are not toggles in the same sense as those on the left – only one memory setting can be active at any one time. The default setting of 8k is the one highlighted when you first view this panel, but if you want to change it just click on whichever of the other three you prefer.

Once you are happy with the setup, click on the OK button. Your preferences will then be written to disc and you will be returned to the Gem desktop. Next time you boot up wih this disc your accessories will be configured in the manner you specified. Clicking on Cancel instead of OK would return you to the desktop leaving the original configuration unchanged.

Calculator

The calculator is designed to cater for most of your basic day-to-day mathematical needs. If you're using a computer as powerful as the ST it seems a waste of resources to revert to a separate manual calculator just to do a few routine sums.

So that you'll feel at home with it, the calculator accessory works just like a pocket calculator. You can operate it using the mouse –

by pointing at the required buttons on screen and clicking. But you may find it quicker to use the ST's dedicated numeric keypad. For ease of use the calculator's buttons have been laid out on screen to match this section of the keyboard.

The functions of these keys – in addition to the number keys – are:

On-screen button	Keypad key	Function
.	.	Decimal point
+	+	Addition operator
-	-	Subtraction operator
*	*	Multiplication operator
/	/	Division operator
=	Enter	Display the result of a calculation
M+	(	Add currently displayed figure to memory
M-	)	Subtract the currently displayed figure from memory
MR	Undo	Recall memory contents to the display
MC	Help	Cancel contents of the memory
√	Insert	Display square root of currently displayed figure
%	Cursor up	Display the result of a percentage calculation
+/-	Clr/Home	Change sign of currently displayed figure
HEX	Cursor left	Convert the currently displayed figure to hexadecimal notation
BIN	Cursor down	Convert the currently displayed figure to binary notation if less than 256 in decimal
C	Cursor right	Cancel the contents of the dislay window

Just like a Gem window, the calculator can be moved around the screen by clicking on its title bar, holding down the left mouse button, and dragging it to wherever you want it.

Calculating percentages

Let's work through a practical example to get the feel of it. To find

a percentage, enter a number, press the * button, then enter the percentage required and press the % key. For instance, to calculate 30% of £50, make the following keystrokes:

$$\boxed{\textbf{50 * 30 \%}}$$

The result of this calculation will show in the display window along the top of the calculator – just like the real thing.

Memory operations

The calculator also has a memory and four memory management functions:

Button	Function
M+	Adds the displayed value to memory
M-	Subtracts the displayed value from memory
MR	Recalls the value of memory
MC	Cancels the value in memory

Automatic operation repeat

Pressing any maths operation twice will cause a K to be displayed in the status area. Numbers entered after this will have the selected operation performed on them, with the previous number as their operand. For example:

$$\boxed{\textbf{2 + + 5 =}}$$

will give you an answer of 7, but if you now enter:

$$\boxed{\textbf{4 =}}$$

the calculator will respond with the number 6. That is, 2 + 4 = 6.

Text editor

The text editor is a general-purpose desk accessory that you can use whenever you need to prepare, edit, save to disc, reload and print out plain text files. It saves its text to disc in standard Ascii format, so it can be used to exchange information with the widest possible range of programs and utilities. In particular, it makes an extremely useful tool for preparing text off line for use in the telecommunica-

tions module. It can also be used to create executable command files for the spreadsheet.

The text editor is invoked from the Desk menu. Selecting it will bring up a large blank window for you to type into. New text files are assigned the name "Untitled" by default, but you can change this to any eight-letter filename when the file is being created or saved.
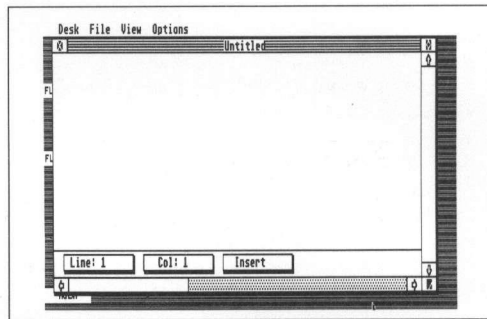
The status line

The status line at the bottom of the text editor window informs you of your current cursor position while editing a file. From it you can immediately see which line you are on and in which column. There's also an indication of whether you are in insert or overwrite mode.

Insert and overwrite modes

The box marked INSERT tells you that you are in Insert mode, which means that wherever you place your cursor, typing will cause the characters already there to shunt along to the right. Clicking on this box toggles you between insert and overwrite modes.

In overwrite mode any characters you type in will go over any text already there. Although this can sometimes be useful, it is more practical to stay in Insert mode most of the time. Typing in overwrite mode can lead to overtyping characters you may not have wanted to erase.

As you type the window will scroll to the right. When you get to the end of a line and are unable to type in any more, pressing Return will take you on to the next new line.

Line editing functions

The text editor and memo pad both include a wide range of short keypress combinations to allow you to edit words, lines and sentences quickly and efficiently on screen. These line editing functions, and the keys used to achieve them, are:

Key Combination	Function
Cursor left arrow	Move a character to the left
Cursor right arrow	Move a character to the right
Cursor up arrow	Move up a character
Cursor down arrow	Move down a character
Shift+Cursor left	Move backwards a word
Shift+Cursor right	Move forwards a word
Shift+Cursor up	Move back a page
Shift+Cursor down	Move forwards a page
Control+Cursor left	Move to start of line
Control+Cursor right	Move to end of line
Control+Cursor up	Move to start of text
Control+Cursor down	Move to end of text
Shift+Control+Cursor left	Scroll to left one character at a time
Shift+Control+Cursor right	Scroll to right one character at a time
Shift+Control+Cursor up	Scroll up one character at a time
Shift+Control+Cursor down	Scroll down one character at a time
Tab	Move to the next tab indent position
Insert	Insert a space at the cursor
Control+Insert	Insert a blank line at the cursor
Shift+Control+Insert	Toggle between insert and overwrite mode
Clr/Home	Move to the top left of window
Control+Clr/Home	Delete the line at the cursor and close up the space
Backspace	Delete the character to the left of the cursor
Shift+Backspace	Delete the next whole word to the left of the cursor
Control+Backspace	Delete from cursor to start of the line
Delete	Delete the character the cursor is on
Shift+Delete	Delete the next whole word to the right of the cursor
Control+Delete	Delete from cursor to end of the line
Return/Enter	Insert a carriage return/start new line

Online help

The text editor and memo pad both provide online help with their line editing functions. So if you are ever unsure about the right keypress combination to achieve a particular result while editing a text file, just press the Help key. You will be presented with a complete summary of the line editing commands.

Once you've found the key sequence you need, you can clear the Help window from the screen and continue with what you were doing by either using the mouse to click on the OK button in the window, or simply hitting the Return key.

Block operations

Although most of the time you'll find the line editing functions of the text editor more than adequate for preparing short pieces of text, occasionally you will discover the need to delete, copy or move around whole groups of lines and entire paragraphs, especially when you are dealing with longer files. For this reason the text editor and memo pad include a wide range of block editing operations.

Before you can manipulate a block of text, you must first define the area concerned – in other words, tell the computer where your intended chunk of text starts and finishes.

This can be done in a variety of ways – using the mouse with the Blocks menu, the mouse on its own, the cursor, or even keypresses at the keyboard. Let's now load in the file BLOCKOPS.TXT and try a few.

With the mouse:

● Point the mouse cursor – the arrow or pointer – at the first letter of the word "This" on line 3.

● Click the left mouse button while pointing at the letter T, and hold the button down.

● Pull the mouse – with the button held down – to line 5 then across to the right until you reach the end of the word "use", then let go. The text should now be highlighted.

● You have just defined a block of text using just the mouse. Your screen should now look like the diagram on the next page:
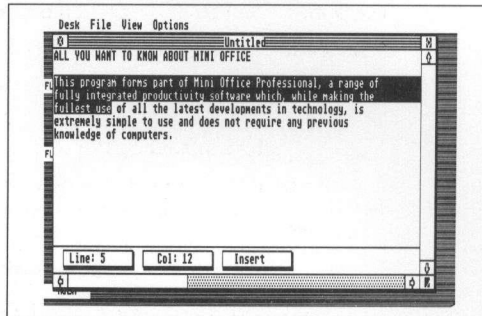
With the menu and cursor:

● Move the cursor to the initial letter T of "This".

● Double click the mouse with the pointer positioned anywhere in the text editor window. This will invoke the text editor's own special File and Blocks menu.

● Point at the word Block. A further menu of options will appear, from which you should choose Mark start.

● Move the cursor to the space after the word "use" on line 5. Now bring up the special menu again but this time choose Mark end.

● You have now defined a block of text, which should be highlighted in inverse video.

With key presses:

Instead of double-clicking for the special menu, a series of keypresses can also be used to activate the same fuctions, so try this method too:

Control+S – Marks the start of a block
Control+E – Marks the end of a block

Once you have defined your block of text there are many ways in which you can manipulate it, using the following functions from the Block section of the File and Blocks Menu.

File and Blocks menu

The facilities offered by this special menu are as follows:

Mark start Defines the start of a block.

Mark end Defines the end of a block.

Clear marks Undefines the currently defined block.

Cut This cuts the text to a buffer. The block remains highlighted on the screen.

Paste Pastes from the buffer to the cursor, the block menu remains highlighted on screen.

Move Takes the block from its original position and move it to the cursor position.

Copy Copies the block to the cursor position, the defined block stays highlighted on screen.

Delete Deletes the block from the text. If you wish to define a large block of text, you may find it easier to use Mark start and Mark end, rather than pulling the mouse over a large area.

Goto start Goes to the start of the block.

Goto end Goes to the end of the block.

Print Allows you to print the defined block of text. This is very useful for occasions when you only want to print out part of a text file. Select and define the text you wish to printout, then choose Print.

Block editing shortcuts

Most of the block editing functions from the File and Blocks menu can also be carried out using a set of short-cut keypresses. These are:

Key combination	Function
Control+S	Mark the start of a block
Control+E	Mark the end of a block
Control+W	Clear the defined block
Control+X	Cut a block
Control+V	Paste a block
Control+M	Move a block
Control+C	Copy a block
Control+D	Delete a block
Control+[	Go to the start of a block
Control+]	Go to the end of a block

All disc filing operations in the text editor and memo pad are carried out through the options in the File section of the File and Blocks menu, shown below:
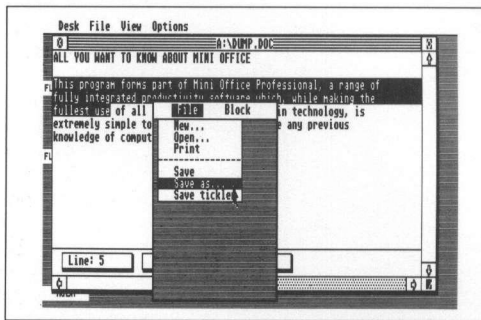
This can be called up by double-clicking with the mouse while the pointer is anywhere within the editing windows of the text editor or memo pad. Its options are:

New Choosing this allows you to start a fresh piece of text, clearing anything that would have been in the window. Before doing so, the text editor checks that you don't want to lose the text you are currently working on. You can choose to save your original file, go on without saving the text, or cancel and return to your last position.

The file selector will appear for you to give your new piece of text a name. You can type in the name of your new file in the space provided:
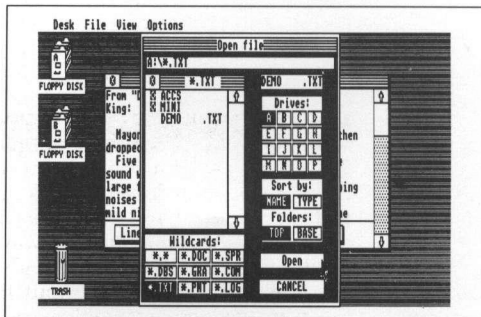
Press Return when you have finished or click on the OK button. You now have a new window to type in.

Open You can open an existing text file in order to look at it or add some text, or look at a file from another source.

Choosing Open will invoke the standard Mini Office Professional file selector, which you can use to search through your disc for the file you want. Click on a folder to display its contents. Click on a folder-close box and you will return to the next level up.

When you have found the file you want to open, click on it. It will appear in reverse video, and the name will be put in the filename area. Click on the Open button or press Return and your file will open.

Print Causes the contents of the file in memory to be printed out.

Save Saves the text in memory under the previously chosen filename.

Save as The file selector will apppear and give you the opportunity to select another filename for your text. Type in the name of the file in the filename area, click on the SAVE button or press Return. Your file will now be saved under this new filename.

Save tickler This option is only selectable from the memo pad. It saves text to disc in a special file which is loaded into the memo pad automatically each time you boot up with it installed. See the note on tickler files on the next page.

Memo pad

The memo pad is a sort of mini word processor which you can invoke at any time from the Desk menu. The idea is that the memo pad should effectively replace the traditional desktop jotter pad. It allows you – without moving away from your micro's keyboard – to make notes and make reminders for yourself while you are working without having to quit the program you are currently using. It provides a convenient means of recording your thoughts

and ideas as they occur to you. Because it formats your text like a word processor and allows you to print it out immediately, it's also ideal for writing short informal letters and internal memoranda, which don't require the polished effects of a full-blown word processor. The memo pad will also allow you to save your memos as disc files and reload them whenever necessary.

Your tickler file

As well as its normal text handling functions the memo pad also provides you with a particularly useful reminder facility:

If you save any memo to disc using the special Save tickler option from the File and Blocks menu, that file will automatically load into the pad's memory when you first boot up with the desk accessories. Since this 'tickler' file will be in the Memo pad the first time you call it up each morning, you can use it to jog your memory about outstanding tasks you might otherwise forget.

Using the memo pad

The memo pad permits you to type up to 50 characters on any one line, after which your text will automatically appear on the following line, as in most word processors.

This wrap-around facility and the line length of 50 characters are the main differences in basic operation between the memo pad and the text editor desk accessory discussed earlier. Apart from this the two work identically in edit mode, and use the same special File and Blocks menu.

File and block operations

As in the text editor, this menu is pulled down by double-clicking the left mouse button anywhere in the memo pad's editing window. For further details of this File and Blocks menu look back to the section covering it with regard to the text editor.

Disc utilities

The Disc utilities desk accessory provides you with a versatile range of general-purpose file and disc housekeeping facilities. These enable you to carry out all the file and disc operations that you would usually approach from the Gem desktop, but without ever having to leave the Mini Office Professional application you are currently running.

Like the other accessories you will find the disc utilities in the

Desk menu of the main menu bar. They have their own icon-based central control panel, shown below, which is brought into operation by clicking on Disc Utilities.
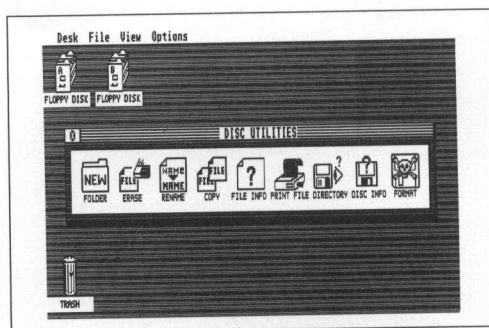
The operations available from here are:

● For Discs: New folder, Disc info, Format and Directory

● For Files: Erase, Rename, File info, Print file and Copy

The file selector

To assist you during file operations, Mini Office Professional provides its own unique file selector, shown below, which is used throughout the Mini Office range of software.
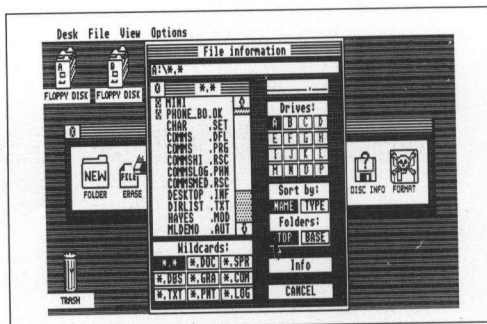
The title bar shows you the operation you are in – in this instance requesting information about a particular file through the File Info option. Under this is the path name, which tells you which directory (folder) you are working in on a disc. This is an editable line that you can change to use any existing path name.

The main window to the left is where your folders and files are listed. The small square symbol at its top left corner is the close box. Clicking on this will take you out of the current folder and up to the top directory. The same symbol appears alongside any folder name in the main file selector window. Clicking on it here will take you into the folder in question.

Scroll bars

The vertical bars bordering the main window allow you to scroll backwards and forwards through the list of files and folders shown. Clicking on the small up and down arrows at the top and bottom of the bar will move you up or down one line at a time.

A portion of the scroll bar will be shaded if some files are out of the window's immediate view. The size of this portion will always be visually proportionate to the number of files out of view. If you click on the unshaded bar, drag it over the shaded area, then let go of the mouse button, the window will refresh to show the rest of the files. Alternatively, you could just click on the shaded area itself to scroll through the files a windowful at a time.

The panel to the right of the file window – headed Drives – allows you to choose which drive you want to look at. Only available drives will be enabled for you to select.

Another panel allows you to choose how you want the files arranged in the File list window. You can choose to view the files sorted by NAME – that is in alphabetical order – or by TYPE – which orders files alphabetically according to their extensions, grouping files with common extensions together. You may also choose to have all the folders displayed at the top or bottom of the list.

To the right of the File list window is an editable area into which you can type a specific filename. Also, clicking on a file in the File list window will place the name of that file into this editable area.

The wildcards panel

You may also choose to look at whole groups of files with the same filename extension by using the wildcards panel beneath the File list window. The specific extensions will differ depending on

which Mini Office Professional module you are using, but the basic principle is the same.

In a wildcard filename specification, an asterisk is used to represent any string of one or more characters either in the main filename or its extension. Thus *.* means any file with any extension – in other words all files. Similarly *.DOC refers to all files with the extension DOC, and LETTER.* refers to all files called LETTER with any filename extension.

The wildcard panel within the Disc utilities is set up to list files with the standard Mini Office Professional extensions of *.TXT , *.DOC , *.SPR , *.GRA , *.DBS , *.MOP and *.LOG .

To the right of the panel is the CANCEL button, which allows you to exit the file selector without doing anything. Directly above this is another button, whose name will vary depending on which operation you are trying to carry out at the time. For example, when you are renaming a file it will be marked RENAME, and when erasing a file ERASE. Once you have selected a file from the main file selector window, clicking on this button will cause the operation you have specified to be carried out.

Disc operations

The disc housekeeping operations selectable from the Disc utilities main icon control panel are:

New folder A folder is the Gem name for a sub-directory – a collection of files. This option allows you to create your own folders. You type the name of the new folder into the editable area of the File selector, then click on NEW.
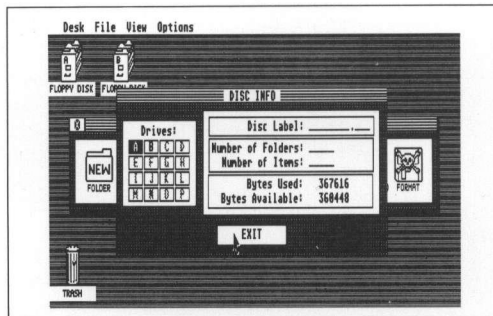
Disc info Lists the usual disc information you are used to seeing when you select the Show Info option on a disc from the Gem desktop. You select which drive you want from the given dialogue box and the Disc info function then identifies the disc, gives the number of folders, the number of items stored, the number of bytes used and bytes available.

Format Choosing this icon will allow you to format a disc – either single or double-sided. Once you've made the choice, pick FORMAT. You will be asked to insert the disc for formatting, then to confirm the operation. At that point your disc will be formatted and verified.
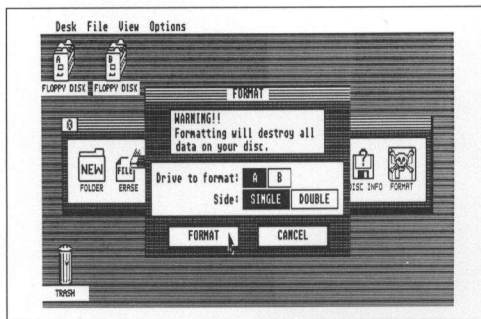
Directory This lists the names of the folders and files on a disc. The dialogue box allows you to choose which drive to use. After choosing the drive you are asked whether you want to output the disc directory listing to the screen, the printer or a disc file. If you choose to send it to a file, the listing will be sent to an Ascii file called DIRLIST.TXT which can then be loaded into the Memo pad or Text editor for examination.

File operations

The file management operations selectable from the Disc utilities main icon control panel are:

Erase Allows you to delete a file from a disc. Select the file you wish to erase by clicking on it in the display window of the file selector, then click on ERASE. It is possible to use wildcards by typing them in the editable area. For example, to delete all backup files on a disc use *.BAK.

Rename This function allows you to rename a disc file. Again you select the file you want to rename from the display window of the file selector and click on the FROM button. Then enter the new name in the editable area and click on TO.

This function has an added bonus in that it lets you effectively move files between folders on the same disc. To perform a move, just use the file selector display window to open the intended destination folder for the renamed file just before clicking on the TO button.

File info Clicking on the File info icon presents you with the familiar file selector. Click on the name of the file you want in the selector's display window, then click on the INFO button. You will be provided with information on the file's size, the date and time it was last modified, and its read/write attributes.

Print This option allows you to list the contents of an Ascii text file to the screen or the printer. Select the file you want to print from the file selector's display window, then click on PRINT. You will be given the choice of sending output to the screen or the printer. Just click on the appropriate button in the dialogue box.

Copy Selecting this allows you to make a copy of any file. Select the file to copy and the drive from which you want it copying using the file selector and click on FROM. Next, click on the intended destination drive for the copy if it is different from the source drive. You may also enter a different filename for the intended copy in the editable area at the top of the selector. Clicking on the TO button will then copy the file.

The copy function allows you to copy files between folders on the same or different discs. To copy between folders use the file selector display window to open the intended destination folder file just before clicking on the TO button.

ALL YOU WANT TO KNOW ABOUT THE MINI OFFICE PROFESSIONAL RANGE

This program forms part of Mini Office Professional, a range of fully integrated productivity software which, while making the fullest use of all the latest developments in technology, is extremely simple to use and does not require any previous knowledge of computers.

The complete suite contains, in addition to Presentation Graphics, a Spreadsheet, Document processor, Communications module and a Database. The package you have purchased also includes a set of invaluable desk accessories.

This manual has been designed to take you step by step through the program's many features, allowing you to learn at your own pace by working steadily through our examples. We feel that this approach will enable you to get to grips with the software in the shortest possible time.

The READ.ME file

To the best of our knowledge the software documentation contained in this manual is accurate and complete at the time of writing. Because our policy is one of continual improvement, there may have been additions or enhancements to the program since it was printed.

Details of any such updates can be found in a text file on the program disc.

This file, called READ.ME, is always included with our packages if only to indicate their version number. It can be viewed by double clicking on it from the Gem desktop. We strongly urge you to read it before doing anything else.

Hardware requirements

Mini Office Professional will run on any ST from the 520STFM upwards. If you have an ST system with more memory, a second disc drive, or even a hard disc, you can only benefit from the extra power.

Integrated software

One of the advantages of the complete Mini Office Professional suite is that the five individual modules are fully integrated in as far

as data exchange is concerned. In other words, any data files you create in one module can be used directly by any other, without the need for doctoring.

So a database file you have created can be loaded into the spreadsheet and used in the graphics program. Even diagrams or graphs produced by the graphics module can be used directly to illustrate your text in the document processor, alongside sections of spreadsheets, or even database records for that matter. What's more, by using the comms module the document could be instantly transmitted to a receiving computer anywhere in the world.

Example files

Your Mini Office Professional package also includes numerous example files, or "templates", which show off the many features of the system and are therefore used as teaching aids in the tutorial sections of this manual. But they are also all based on practical, real-world applications – so once you do become proficient with Mini Office, you can perhaps edit them to use for your own purposes.

Resident desk accessories

At any time you also have immediate access to a powerful and practical set of memory-resident Gem desktop accessories: A calculator, a text editor (handy for preparing text off line when using the communications program), plus a memo pad for taking ad hoc notes and jotting down useful reminders while you work.

Please follow the tutorials through carefully. Even if you don't see a need for using any of the examples directly yourself, it will help you to understand how Mini Office Professional works, and in no time you'll be competent and confident enough to create your own work from scratch.

Using Gem

Computers are capable of performing many different and complex tasks in the twinkling of an eye. But the majority of these can in fact be broken down into just a few fundamental operations repeated many times – such as data or file handling, running programs, and controlling peripheral devices like printers, plotters or visual display units.

A low-level program, known as the computer's operating sys-

tem, runs quietly in the background to handle all these jobs automatically, while presenting you with a simplified view of what's happening.

The ST's operating system uses Gem – the Graphics Environment Manager – to show you what is going on through a system of very user-friendly screens. Using Gem allows you to handle these tasks easily without you having to remember complicated commands.

The Wimp environment

Gem uses a radical and novel way of visually representing the various operations carried out by the operating system as symbolic pictures – better known as icons – on an imaginary desktop.

Commands, on the other hand, are grouped together by function as selectable options within pull-down menus. You pull these down rather like blinds by "pointing" at their titles, which appear as keywords on a main menu banner along the top of the desktop.

Pointing at an icon or menu means moving the desktop cursor – represented by a little arrow called the pointer – until it is over the desired object. This pointer is guided round the desktop by moving the mouse around on your worktop. Once a menu has been pulled down you then select one of its options by pointing at it and pressing the left mouse button. This is known as clicking on the object or option.

Programs like Gem which allow you to operate a computer in this user-friendly way are known as Wimp systems – standing for Windows, Icons, Menus and Pointer.

Keypress shortcuts

Many of the mouse-selectable menu options can also be activated directly from the keyboard through short keypress commands, and once you've got used to using Mini Office Professional you may well find these quicker and more convenient for tasks you carry out frequently. Those options which have a keyboard alternative have the appropriate keypress sequence shown alongside them in the menus.

All these command sequences consist of an alphabetic letter key pressed in conjunction with either the Alternate or Control key. Alternate is indicated in the menus by a vertical bar (|), and Control by a circumflex accent symbol (^).

Occasionally a command can only be issued by pressing one of

the keys on the numeric keypad on the right of the ST keyboard, and to indicate this in the menus we have used our own convention of preceding the key concerned with a hash (#) symbol.

Windows

A window is a predefined area of the screen used to display information. Its size and shape can be changed in a variety of ways to suit your requirements, and several windows can be open on screen at the same time, as we'll see later. A typical Gem window is shown below:
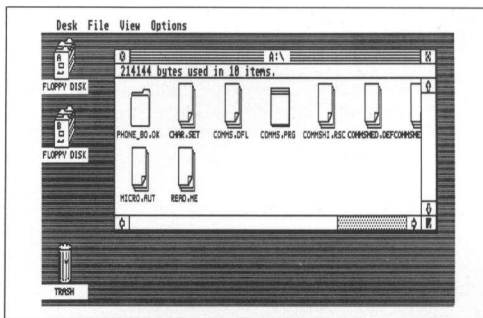
Items on the desktop can also be moved around by "dragging" them with the mouse. To drag an icon, point and click on it using the left mouse button. Then, keeping that button depressed, move the mouse to the icon's new intended position and let go.

Mini Office Professional works completely within the Gem Wimp environment. But before you start using the program, it's essential to back up your master discs and put the originals away for safe keeping, as explained in the next section.

This section has been intended purely as a brief introduction to Gem for new ST owners. For more detailed information refer to your Atari ST User Manual, in particular chapters 3, 4 and 5.

Backing up your discs

Each Mini Office Professional module comes on two discs. You could use these to boot up your system, but this is very bad practice and not recommended. The following section explains the proce-

dure for making a duplicate working copy of your master discs using Gem.

IMPORTANT NOTE: *For your convenience in making working backups of the programs, Mini Office Professional is not copy protected. At Database Software we believe strongly in bringing you high-quality software at a reasonable price. However, we can only continue to do this as long as you continue to respect our copyrights. Software piracy is theft, and so distributing copies of this software to others is illegal. Help us to help you: Please buy – don't steal.*

Preparing blank discs

In order to back up your discs, you must first prepare two blank discs to copy the program on to. This is called formatting. To format your blank discs follow the steps below, carefully reading the prompts that appear in the Gem dialogue boxes on your screen during the process:

● Boot up your system with the Mini Office Professional Program disc. Then take it out of the drive and replace it with a blank disc.

● Click on the Gem desktop icon for Floppy Disc A, and you will see it reverse out to black. Then use the mouse to pull down the File menu, and from it select the Format option, as shown below.
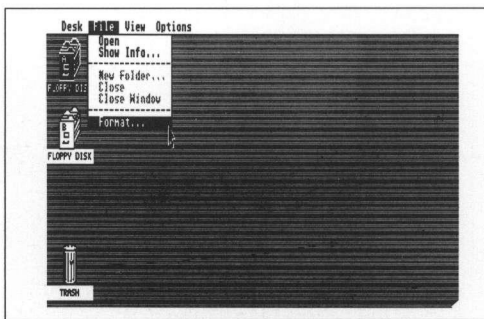
● An Alert message will prompt you that formatting will erase any information that may already be present on the disc. If you are using

a new disc this will not apply. Now click on the OK button. A
dialogue box will appear for you to start formatting:
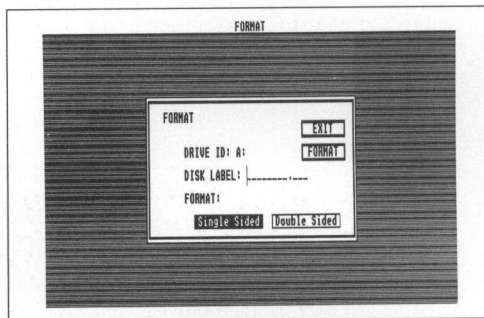
● Now choose the option for single-sided, then click on the Format
button. The drive will start to chug as the formatting process begins.

● While the disc is formatting, the computer will show you the
progress of the process graphically:
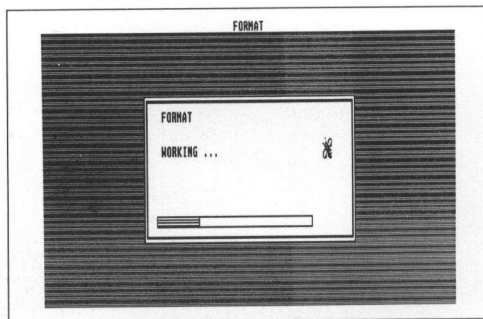
● When the process is complete, you will again be presented with the
Format dialogue box. Remove your formatted disc and put it to one
side.

● Insert your other blank disc and choose Format again to repeat the
process. You will see the disc formatting. When this has finished
and you see the Format dialogue box again. Choose Exit to finish,
and you will be taken back to the desktop.

Copying discs with one drive

● Insert the Mini Office Professional Program disc in the drive. Select the Gem icon for Floppy Disc A by pointing at it with the mouse and clicking the left mouse button. Holding the left-hand button down, drag the Floppy Disc A icon over the icon for Floppy Disc B, and when the Floppy Disc B icon reverses shading, release the left mouse button:
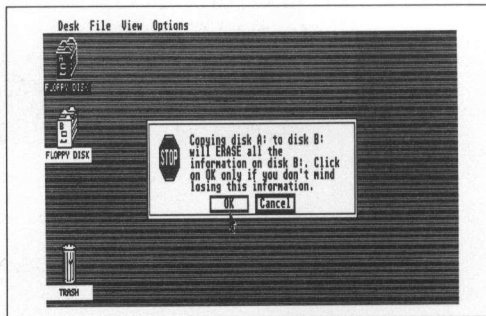
● As a precaution an Alert message will appear, warning you that copying Disc A to Disc B in this fashion will erase all the existing information on Disc B if there is any. Since you are beginning with a completely blank, newly formatted disc you needn't worry about this. Just click on the OK button of the dialogue box. You will now see the Diskcopy box:
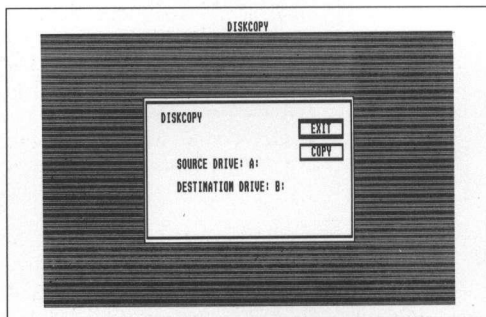
● Now click on the Copy button, and follow the prompts to finish the copying process. You will be instructed to switch discs whenever it's necessary, until the copying process is complete. The source disc is the one you are making a copy OF – that is, the Mini Office Professional Program disc. The destination disc is the one you are copying ON TO – your blank formatted disc. To let you know how things are getting along, the program monitors the copying process visually on screen in the same way as during formatting:
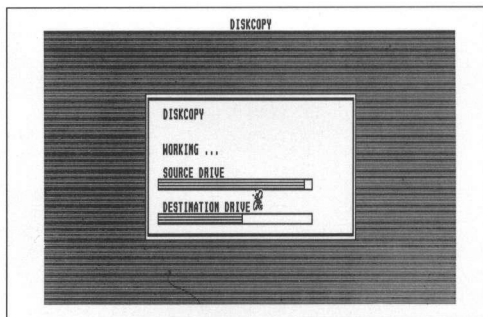
● When the procedure is complete, you will see the Diskcopy box again. Remove your disc from the drive and, using a stick-on paper label, label your copy as "Mini Office Professional Program Disc – Working Copy". Then place these two discs to one side.

● Insert the second Mini Office Professional disc in the drive, and select the Copy button. The process will be repeated to copy this disc too, and when the process is finished you will again see the Diskcopy box. This time select Exit, and label your second copy as "Mini Office Professional Disc 2 – Working Copy".

● Now put your two original Mini Office Professional discs away in a safe place. From now onwards you should use only the working copies you have just made, unless these discs fail, in which case you will have to re-copy the originals.

Copying discs with two drives

If your ST system includes a second disc drive, the procedure for backing up the master discs is almost the same as above. However,

when you run the Diskcopy program – by dragging the Drive A icon on to the Drive B icon – you should place the master disc you wish to copy in drive A and a blank formatted disc in the second drive. This way no further disc changes will be required during the copying process.

Installing your printer

All the programs in the Mini Office Professional suite have been preset to work with a standard Epson-compatible printer, as this is by far the most common type of printer in use today.

Should you want to use the package with another printer you will need to configure the software to work with a separate printer driver. You can do this with an easy-to-use printer configuration utility that is on your program disc.

This program allows you to install any one of a long list of printer driver data files supplied with all Mini Office Professional modules. Each of these files contains all the control code data required to operate a specific printer.

In most cases one of these prepared files will be all you require to get your printer working, because the range covers all the most common models on the market. If none of them are suitable though, the configuration program will still allow you to create your own custom printer driver. To do this you only need to know the specific control codes to which your printer responds. These can be found in your printer's manual.

The configuration utility – called PCONFIG.PRG – is in a folder called PRINTERS, together with all the ready-made printer driver files. Each file will be named after the printer model it is meant to cater for and they all end in the filename extension .PTR. For example, the driver for a standard Epson-compatible printer – for which Mini Office Professional is already configured – is called EPSON.PRT.

To run the configuration program, follow these instructions:

● From the Gem desktop, with no windows open, insert your backup of the disc containing the folder PRINTERS into drive A and click on the Drive A icon to open a window for this drive.

● Now find the folder called PCONFIG and double click on it to enter the folder.

● You will see a program called PCONFIG.PRG – this is the printer

driver configuration program. Double click on that to run it. Once the program has loaded you will be presented with the Printer configuration panel, shown below:

The Printer configuration panel

This main panel show below is where you would specify all the necessary numeric control codes for your printer if you wanted to set up a custom printer driver of your own. In the top half of the panel are 15 Gem buttons, and just below them in the centre is a data entry box.

The buttons and the data entry box are used together to specify printer control codes. Clicking on a button will cause it to be highlighted in inverse video. You can then enter the appropriate codes for that button in the data entry box.
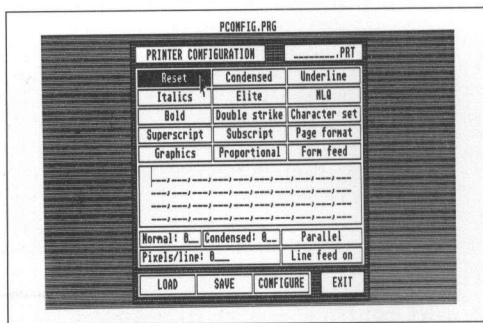
For the buttons governing typestyles, such as italics, the data entry box will prompt you for two code sequences – one for turning italics on and another for turning them back off again. Each of these codes can consist of up to 17 numbers spread over two lines.

With those buttons that do not have an on and off setting – as is the case with the printer reset sequence – the data entry box provides four lines into which you can type a single code sequence of up to 36 numbers. To move from line to line on the configuration panel you should use the keyboard's cursor arrow keys or the mouse to click on the area you wish to edit.

The buttons marked Condensed, Underline, Italics, Elite, NLQ, Bold, Double strike, Superscript and Subscript speak for themselves: They allow you to set the code sequences for turning these

typestyles and typesizes on or off. If your printer supports proportionally spaced printing, the Proportional button can be used to specify the codes for turning this mode on and off. The graphics button is used for the control codes that switch between normal and bit image printing, as required for graphics and screen dumps

The Reset button is used to specify the initial reset sequence for your printer and Character set lets you select one of the international character sets available on most printers. The Page format button provides a way for you to tell the printer to follow certain conventions with respect to the overall format of a printed page. It could be used, for example, to turn the perforation skipping on and off when using continuous stationery, or to set top, bottom and side margins.

We have also provided a button for specifying the code your printer uses for sending form feeds. This is because although most dot matrix machines use the same sequence, there is not an officially recognised standard for this operation, particularly with laser printers

Just underneath the central data entry panel there are five more boxes. In the first two you can key in the carriage width of your printer for both normal Pica and Condensed print modes. The third box is a Gem toggle button, which allows you to configure the printer to receive its data through either the parallel or serial port of your ST. Directly below this is another toggle which turns automatic line feeding on and off. The last box allows you to key in the number of pixels per line the printer should send when in bit image graphics mode – usually either 960 or 1280.

Loading and saving printer drivers

At the very bottom of the Printer configuration panel are four command buttons marked LOAD, SAVE, CONFIGURE and EXIT.

LOAD allows you to load in a printer driver data file, at which point all the settings in the panel take on the values specified in that file. If you take this option you will be presented with the standard Mini Office Professional file selector so you can choose one of the printer data files supplied with the package or one you have created yourself.

SAVE takes the settings you have made on the printer configuration panel and turns them into a printer data file. This will then be saved to disc with the filename extension .PRT. During this process you will be presented with the file selector to allow you to supply an appropriate filename. This is how you would set up a

configuration data file for your printer if none of those supplied meets your requirements.

The CONFIGURE button is the one you click on to install the settings on the configuration panel as the default printer driver file. This file is written to disc under the filename PRINTER.CFG, and is then used automatically when you run any Mini Office Professional programs.

The EXIT button clears the configuration panel and returns you to the desktop without doing anything.

The default printer driver

Installing a printer driver file – whether it is one of those supplied ready-made with the package or one you have created yourself – is a very simple task. To install an existing driver just run the printer configuration program. When the Printer configuration panel appears, click on the LOAD button. Once the file selector appears, click on the name of the printer driver you need from those displayed and click on Load.

All the settings held in the file you have chosen will now be loaded into the Printer configuration panel. Installing them as the default printer driver involves placing the disc on which you want to install the printer in the drive and clicking on CONFIGURE.

If none of the supplied data files is suitable for use with your printer you will have to create one of your own. Find the appropriate numerical control codes in your printer manual and key them into the Printer configuration panel. Then click on SAVE to store them to disc as a printer driver file for future reference. You will be prompted for an appropriate filename when the file selector appears, although you cannot change the default filename extension of .PRT. You can then install the current panel settings as the default driver by clicking on the CONFIGURE button.

If your printer does not support any of the features on the configuration panel – for instance if it does not have an option for condensed print – you should just leave these areas of the panel blank. The configuration program will then fill these areas of the printer driver it creates with null values.

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Where several page references are given for an entry, the numbers in bold point to the the main discussion of a topic or program option.

Other modules in this series

Document Processor

Create multi-column documents, wrap round graphics, multi-size text, range of typefaces, spelling checker, thesaurus...and more.

Spreadsheet

Open up to four sheets at once, align cells left, right or centre, sort rows or columns, print extra-large spreadsheets sideways... and more.

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Choose from terminal or viewdata modes, use the autodialling phonebook, download telesoftware using Ascii, Kermit or Xmodem...and more.

mini OFFICE

P R O F E S S I O N A L

The Mini Office Professional suite heralds the beginning of a new era in productivity software for the Atari ST. In addition to the Presentation Graphics module you can obtain the following: Document Processor, Spreadsheet, Database and Communications.

All the modules are fully integrated to maximise your efficiency – which means that you can pull graphics, spreadsheet tables and database information into the document processor – and do powerful mail merging too. You can load database files into the spreadsheet, or spreadsheet files into the database, and turn data from both into attention-grabbing charts. And any file can be sent to other ST owners down your telephone line using the communications module. The opportunities are endless.

To find out more about the Mini Office Professional modules for the Atari ST write to:

DATABASE SOFTWARE

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